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### LEGALLY QUALIFIED.

"THE body of Chemists and Druggists has thus become divided into two classes, consisting of, firstly, those who are legally recognised as qualified Pharmaceutical Chemists; and secondly, those who have no such recognition or legal qualification."

"The doctrine of free trade in physic, and the advocacy of unrestrained liberty to supply the public with dangerous drugs and poisons, have not, that we are aware of, been adopted by the Pharmaceutical Society, and we trust they never will be; on the contrary, the efforts of this Society have frequently been directed in an opposite direction."

"This certificate (of Pharmaceutical Society) is *not yet* rendered essential as a licence for carrying on the business of a Chemist and Druggist."—PHARMACEUTICAL JOURNAL.

"Free Trade for Chemists and Druggists, and Protection from unnecessary Legislative interference."

"The Society have now an organization which can bid defiance to compulsory legislation, and they are determined, with the co-operation of the trade, to protect the right of a Chemist and Druggist to prescribe—a right which common sense, long-continued custom, experience, and the wants of the poorer classes, thoroughly justify."—FIRST ANNUAL REPORT UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

The above quotations raise a distinct issue, and viewing the question from the broad basis of what would be productive of the greatest advantage to the public and to the trade, we cannot help confessing that our opinions and sympathies are in favour of the United Society.

In the great battle of Free Trade there has been no argument more commonly used by its opponents, in any particular section of trade, that, however advantageous in its general application, there was some speciality that commended itself to the care and protection of legislation that made it an exception to the general rule. From the dealers in corn to the pharmaceutical vendors of physic, this venerable argument is urged with a pertinacity that is wonderful, taking into consideration the now generally known truth, that whatever is required to be propped up by legislative protection, must be extremely rotten at the foundation, and that the weakness of the dealer must be strengthened at the cost of the consumer. Not only does Free Trade secure the public the best at the lowest cost, but by the same law of operation it provides and encourages the best talent, the highest skill, and the greatest experience, and is thus peculiarly adapted to favour the trade that requires a speciality in these respects.

In a consideration of this question, it may not be unprofitable to glance at the position in which the Chemists and Druggists, as a trading community, would be placed, if the right to prescribe and vend medicines were rigidly confined to that test that is deemed by protectionists to be the only safeguard against the licence of incompetency, namely, the test of pharmaceutical examination. There is no doubt that the immediate influence would be to withdraw from the ranks of the trade all those who could not afford to pay examination fees—a class that unfortunately must at all times be a large one, thus interfering with that self-adjusting meter of demand and supply which at present enables even the poorest and most remote districts throughout the country to be provided according to their wants. The effect of this would be most disastrous. The trade, confined to the richer and exclusive few,

would in time become a monopoly, productive of gross injustice, and while ostensibly seeking to elevate the professional character of Chemists and Druggists, would entirely destroy their usefulness to suffering humanity as the "poor man's doctor;" they would neither be numerous or willing enough to devote their time and energies to a sphere of exertion that could not repay them the extra capital they had sunk. It is hardly necessary to add the inevitable collision that would occur between them and the medical profession. At present the line is distinctly drawn, within which the legitimate right of a Chemist and Druggist to prescribe is usefully and frequently exercised, his daily experience enabling him to treat successfully with all those slight ailments that constitute the major portion of the cases that are brought under his notice.

It would thus be seen that a great public loss would follow legislative interference; and while the result of limiting the licence to trade as Chemists and Druggists only to those possessing the Pharmaceutical Society's certificate would crush those who, having every ability, failed only through their poverty, not a word is said how the present non-pharmaceutical members of the trade are to be dealt with, a difficulty the greater for their numbers and general respectable standing. When we see the great extent of the trade, and view the small result that has attended the exertions of the Pharmaceutical Society over a space of twenty years, and with all the advantages of its original large means, we cannot but see that the doctrine of legislative restrictions is not based upon those laws that successfully govern and promote industrial progress amongst Chemists and Druggists.

The distinction that is drawn between the vending of physic and the sale of any other article, if it has anything about it at all, is the greater necessity of it not being hampered with obstacles that would prevent the public having the best men in it—men whose special ability would be shown by results, who could not falsely assume a position of great responsibility under the cover of a certificate of mere legal qualification.

The safe basis of operation is non-interference.—Do not legislate. When a restrictive privilege is given, a penalty is somewhere inflicted; open the doors of opportunity, and Free Trade will provide you with the best fitted men for the position. In a free and open competition the support of the public is taken away from the ignorant and incompetent, and infallibly rests with the industrious and experienced.

Free Trade, even in physic, provides more checks for its safe and skilful practice than the most rigid system of examination; indeed, there is grave doubt whether the system of examination tests is not after all a very delusive protection from ignorant incapacity—failing to provide against the very evil for which it is considered the greatest safeguard. A certain amount of formal routine knowledge is sufficient to pass the barrier, and having once obtained the legal qualification, the stimulus is withdrawn—the daily opportunities for acquiring experience may be disregarded, and professional carelessness follow a release from a sense of responsibility. Yet the chartered privilege remains that enables in too many cases the ignorant pretender to stand in the place of a really qualified man. In thus speaking of examination tests, we should wish to be thoroughly understood. There is a very important distinction between a legislative compulsion and the practice of voluntary advancement by official examination. In the former case it is too often a mockery and a snare, while in the latter it would always be an honourable, truthful evidence of a student's progress, and we cannot help thinking that it is here that the Pharmaceutical Society have committed a fatal error, one that has thoroughly prevented its progress. They have sought to force an improved standard of acquirement at a great expense upon the trade, instead of encouraging the pursuit of scientific research for its sake alone,—they have ignored the fact that the best of all knowledge is gained by experience, open and free to every sincere inquirer, and not packed up in a box, the key of which is only to be found at Bloomsbury-square.

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## CHEMISTRY AND PHARMACY AT THE INTERNATIONAL EXHIBITION.

By C. W. QUIN, F.C.S.,

SUPERINTENDENT OF CLASS II. (CHEMICAL AND PHARMACEUTICAL PRODUCTS).

The prophecies contained in the first article in the Chemical and Pharmaceutical Section of the International Exhibition have been fulfilled in a very triumphant manner. The Chemists and Pharmacutists of Great Britain have contributed the most perfect display of the kind ever seen, a display that will still more distinctly stamp England as the Chemical nation of the world. Whether we consider the quantity or the quality of the chemicals, the wonderful strides made since 1851, or the array of names of the contributors, we have alike cause for congratulation and admiration. There is hardly a single good name absent, and not one product of importance unrepresented. But it will not do to lose time in general admiration when so much detail has to be described and admired.

The space allotted to Class II. is situated in the eastern annex, a supplementary portion of the main building running in a northerly direction on the east side of the Horticultural Society's Gardens. It is about the most unfavourable position for chemicals that could possibly be chosen, for being a wooden building with very little ventilation, and lighted very strongly from the top, the effects of the excessive heat and light have already been most disastrous. It is necessary to premise this much, as many very fine specimens have been totally spoiled from one or other of these causes; visitors must not, therefore, be surprised at seeing some very brown calomel, or some sooty vermilion, exhibited by houses that are famous for the production of the best qualities of these articles. On entering the Class from Class I. (Minerals), the first case on the right is that of Mr. Squires, containing some interesting specimens of rare alkaloids. A fine mass of golden yellow crystals of piperine, the alkaloid of pepper, is the gem of the collection. Around are grouped some fine specimens of theine, cubebine, benzoate of ammonia, and other rare products. Mr. Squires also exhibits extracts of belladonna, hemlock, rhubarb, and several other plants of great excellence, prepared very slowly at a low temperature. Next to this is the very fine case of the Pharmaceutical Society, which is really a model of art and arrangement. The collection comprises specimens of nearly every chemical drug or preparation used by the British pharmacist. To describe them even roughly would take up two or three numbers of the *Chemist and Druggist*, besides which the Society has placed intelligent curators at the case, whose business it is to afford every information and assistance to inquirers, who are allowed to touch, taste, or smell any preparation under certain restrictions. This will have the effect of introducing many of our country, and even London brethren, to new preparations and drugs, besides being a practical exposition of our pharmacopœia for the instruction of foreign or colonial pharmacists. The Society deserve the thanks of the profession at large for the very creditable manner in which they have formed the collection, and for rendering their specimens accessible to every one who has a right to examine them. We believe the idea originated with Dr. Redwood. Next to the Society's case is that of Mr. Bastick, containing some excellent *liquors*, and some valuable preparations of cod-liver oil combined with genuine iodide of iron, and other therapeutic agents; and immediately above are some compounds quite new to chemistry, consisting of the *glycerides* of borax, senna, aloes, diacetate of lead, and other combinations of similar nomenclature, equally marvellous and unknown. If these preparations are really good and valuable, why give them absurd pseudo-scientific names?

Passing on, we come to Messrs. Judson's simple dyes, which are succeeded by two cases containing starch and a composition for coating ships' bottoms, substances of no interest to our readers. Adjoining these is a case containing some carefully prepared essential oils, extracts, and dried plants, from the laboratories and gardens of Mr. Ransom, of Hitchin, the well-known grower of belladonna, lavender, and many other officinal plants. Two more starch cases carry us round the corner to Mr. Shand's display of bone and hair products. Next to them are some specimens of *potable* wood naphtha, madder root and

beetroot spirit substances which have as yet remained unpalatable before the power of the chemist. If it be true that these nauseous spirits are really rendered drinkable, and we have it on high authority that they are, it will not only afford our convivial friends a new source of elevating drinks, but it will supply the pharmacist with a new and cheap material for his tinctures and alcoholic extracts. The patent is not yet complete, but as soon as it is we shall lay the particulars before our readers. Immediately adjoining is a collection from a house bearing a name famous for ever in the annals of chemical science, we mean that of James Muspratt. The specimens of alkali exhibited by them are of excellent quality; not less so are the fine crystals of chlorate of potash. The sulphate of alumina, which is extensively used by paper-makers as a mordant, is also very good. Their immediate neighbours, Messrs. Haworth and Brook, have sent the finest specimens of refined indigo to the Exhibition. The heap on the extreme right is wonderfully pure in colour. After them come four well-known colour manufacturers, the last of whom, Winsor and Newton, exhibit upwards of one thousand pounds' worth of real ultramarine. Turning to the right, before coming to the end of their case, the first collection we meet with is that of the Hurler and Campsie Alum Company, whose specimens of red and yellow prussiate of potash are quite unequalled. A mass of crystals of the former has received special commendation from several eminent chemists. The perfect single crystals of the yellow prussiate are also exceedingly interesting. Immediately adjoining them is a half-ton block of solid paraffin, exhibited by Mr. James Young, of Bathgate; above which are placed some interesting specimens of paraffin from Boghead mineral, from Wigan coal, and from Newcastle coal, each exhibiting distinct peculiarities. Next to it is a very handsome case, in which Messrs. Mander Brothers display a fine collection of varnishes, accompanied by specimens of the gums from which they are made. Crossing the central avenue we stand entranced before the splendour of the magenta crown, exhibited by Messrs. Simpson, Maule, and Nicholson. This wonderful object is a mass of octahedral crystals, of a brilliant green colour, which rivals in metallic lustre the wings of the brightest eastern beetles. Seen with the sun shining upon it, the magnificence of the flashes of greenish yellow light reflected from thousands of facets is something that cannot be described, and as a mere piece of splendour it is by far the finest specimen in the section. Chemically speaking, it consists of the acetate of rosaniline, or magenta as it is commonly called. Dissolved in water it forms the splendid dye with which we are so well acquainted. There are several other salts of the same base exhibited, the oxalate, chloride, &c., but none of them at all comparable in beauty to the acetate. For the information of those of our readers who are not acquainted with the subject, we may mention that rosaniline is a distinct base formed by the action of chloride of tin or chloride of arsenic upon aniline. It gives these sets of salts with the different acids, most of which crystallise with facility in lustrous forms of great beauty. Messrs. Simpson and Co. also exhibit two new aniline dyes, just discovered, one of which gives a gorgeous orange, the other a very beautiful purple. Next to this wonderful case are some specimens of artificial alizarine by Messrs. Pincoff, accompanied by some prints showing the different modifications of colour of which the material is susceptible.

So much for the present. In our next we shall continue our tour, making it rather more lengthy.

The Jury of Class II. have already commenced their labours. They are divided into two sections, one for chemicals, the other for drugs and pharmaceutical preparations. A list of their names is subjoined.

## CLASS II.—CHEMICAL SUBSTANCES AND PRODUCTS, AND PHARMACEUTICAL PROCESSES.

### SECTION A.—CHEMICAL PRODUCTS.

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|-------------------------------|------------|---|
| 1. FRED. ANTHON, Chem. D..... | Austria .. | Professor of Chemistry, Prague.                                   |
| 2. BALARD .....               | France ..  | Professor of the College of France and of the Faculty of Science. |

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| 8. E. H. VON BAUMHAUER, M.D. ....     | Netherlands | Professor of Chemistry in the University of Amsterdam, and Member of the Academy.                      |
| 4. A. BERNAYS, Ph. D. ....            | India ....  | Professor of Chemistry, St. Thomas's Hospital.   |
| 5. CHANDELON. ....                    | Belgium..   | Professor of Chemistry, University of Liège; Member of the Royal Academy of Medicine.                  |
| 6. E. FRANKLAND, Ph. D., F.R.S. ....  | London ..   | Foreign Secretary to Chemical Society.   |
| 7. PROFESSOR G. FÖRCHHAMMER .....     | Denmark     | Secretary of the Royal Society of Science, Copenhagen.   |
| 8. WM. GOSSAGE .....                  | Warrington  | Chemical Manufacturer.   |
| 9. T. GRAHAM, F.R.S. ....             | London ..   | Master of the Mint, Vice-President of Chemical Society.  |
| 10. A. W. HOFMANN, F.R.S., Ph. D. ..  | London ..   | President of the Chemical Society; Professor of Chemistry, Government School of Mines.                 |
| 11. N. KUNHEIM, Ph. D. ....           | Zollverein  | Manufacturer.  |
| 12. A. V. LOURENÇO .....              | Portugal..  | Professor of Chemistry at the Polytechnic of Lisbon.   |
| 13. DR. A. MÜLLER .....               | Sweden ..   | Professor of Chemistry at the Royal Agricultural Academy, Stockholm.                                   |
| 14. RAFFAELI PIRIA .....              | Italy ....  | Member of the Italian Parliament; late Minister of Public Instruction, Naples; Professor of Chemistry. |
| 15. JAS. YOUNG, F.R.S.E., F.C.S. .... | Bathgate    | Chemical Manufacturer.   |

## SECTION B.—MEDICAL AND PHARMACEUTICAL PRODUCTS AND PROCESSES.

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| 1. PROFESSOR WÜRTZ (Chairman) .. | France ..  | Senator; Member of the Institute; Professor of the Faculty of Science.                     |
| 2. VON FEHLING, M.D. ....        | Zollverein | Professor of Chemistry at Stuttgart.   |
| 3. DANIEL HANBURY, F.L.S. ....   | London ..  | Pharmaceutical Chemist.  |
| 4. SALVATORE DE LUCA .....       | Italy .... | Professor of Chemistry.  |
| 5. T. N. R. MORSON, F.L.S. ....  | London ..  | Pharmaceutical Chemist.  |
| 6. J. M. NELIGAN, M.D. ....      | Dublin ..  |  |
| 7. THEOS. REDWOOD, M.D. ....     | London ..  | Secretary to the Chemical Society and Professor of Pharmacy to the Pharmaceutical Society. |
| 8. A. SCHROETTER, Ph. D. ....    | Austria .. | General Secretary of the Imperial Academy of Science; Professor of Chemistry, Vienna       |
| 9. ROBT. WARINGTON, F.C.S. ....  | London..   | Vice-President of the Chemical Society.  |

## IRIS VERSICOLOR.

SYNONYMS.—Blue Flag, Blue Iris, Blue Seg.

BOTANY.—This is a perennial herbaceous plant, indigenous to most parts of the United States, and growing in meadows, swamps, and wet situations. It belongs to the Natural Order *Iridaceæ*—the Iris or Corn-flag Order—an extensive family of plants, the rhizomes of which, so far as they have as yet been examined, have all been found to be more or less acrid, and to possess cathartic and emetic properties. The species *Florentina* is the only one that is officinal, but *Versicolor* is most generally used in America, and several other species are employed as medicinal agents in different parts of Europe. The rhizomes are horizontal and fleshy, and put forth numerous fibrous roots. They are destitute of odour, but have a nauseous acrid taste, and, by expression, yield an exceedingly acrid juice. They should be collected when the leaves of the plant have begun to decay, as at that time they are more abundant in active matter than at any other period. The stem rises to the height of two or three feet, and the leaves sheath at the base, are striated, and sword-shaped. The flowers are large and beautiful, and vary very much in colour, being of various shades from blue to purple; they blossom during the month of June, and are a great adornment to the localities in which they grow.

CHEMISTRY.—Water only partially extracts the virtues of the rhizomes, but they are stated to be perfectly exhausted by alcohol. The medicinal properties appear to reside

in a peculiar oil or oleo-resin, which has been termed *Iridin* or *Irisin*, and which possesses the odour and taste of the rhizome in a very high degree; this, when reduced to the state of powder by admixture with an equal portion of sugar of milk, constitutes the "concentrated preparation," sold as "*Iridin*." A fine blue infusion, useful as a test for the presence of acids and alkalies, is obtained from the flowers.

**ADULTERATIONS.**—It is stated that this preparation is sometimes adulterated with magnesia, or its carbonate. The per-centage of pure *Iridin* may be ascertained by treating one hundred grains of the suspected powder with hot alcohol, filtering, and evaporating to the consistence of a syrup, and then adding water, which precipitates the oleo-resin; this is to be collected, dried, and weighed, and should, if pure, yield fifty grains, or half the weight of the quantity used. The sugar of milk, which would remain insoluble, may now be dissolved in water, filtered, evaporated to dryness, and the weight ascertained.

If *magnesia* or its *carbonate* were present, they would remain undissolved by the water, but on the addition of hydrochloric acid, solution would be at once effected (effervescence ensuing if the carbonate were present). On filtering the solution, adding a slight excess of ammonia, and a little solution of phosphate of soda, a white precipitate would indicate the presence of *magnesia*.

**MEDICINAL PROPERTIES.**—It is alterative, cathartic, and diuretic, and has been successfully employed in dropsy, serofula, hepatic, renal, and splenic affections; the concentrated preparation *Iridin* is extensively used in chronic visceral affections, diseases of the genital organs, rheumatism, and dropsy; it is also an effective sialogogue in those cases of glandular diseases which seem to resist the action of other means.

The expressed juice is said to be often employed as an external application.

It enjoys a high place in the estimation of some medical men, whilst others consider its employment to be unsafe and dangerous.

Dr. Andrews, of Michigan, is reported to have frequently used it as a cathartic, and it is said to possess some advantage over the more ordinary active cathartics, in having a less disagreeable taste; it should, however, be always combined with some other stimulants, as camphor, cayenne pepper, xanthoxylin, oils of peppermint, anise, or fennel, &c., so as to overcome any griping tendency. Dr. Bigelow found it very efficacious as a purgative, but apt to produce nausea and prostration of strength. Dr. King states that "equal parts of Blue flag, Podophyllum, and Xanthoxylum bark, given in doses of ten grains every two hours, to fall short of catharsis, will act as a powerful alterative, frequently causing copious salivation without injury to the teeth and gums." It is also stated that the salivation is unattended by that peculiar fetor characteristic of the employment of mercury for that purpose. Dr. McBride employed it successfully in dropsy, in combination with corn-snakeroot (*Eryngium yuccifolium*). It has also been highly recommended in syphilis, whether primary or secondary, and has been used in hydrothorax and anasarca. A mixture of three grains of *Iridin*, six grains of Leptandrin, and twenty grains of Bitartrate of Potash, are said to form an excellent hydragogue cathartic powder, of great value in some forms of dropsy.

#### PREPARATIONS AND DOSES.

The following are the principal:—

Fluid extract, gtts. xx. to gtts. lx. Solid extract, gr. j. to grs. iv. Tincture, f3j. to f3iij. Compound tincture, gtts. x. to gtts. xx.; in water, two or three times a day. Syrup, f3ss. to ʒiv. *Iridin*, gr. ss. to grs. ij., as an alterative; grs. ij. to grs. v., as a cathartic.

In an article by Dr. Lee,\* to whom we are indebted for much of our information on these remedies, it is stated that "many of these so-called concentrated preparations contain a large admixture of either the powdered substance, salt, or *magnesia*;" or they may consist of a "simply dried aqueous or alcoholic extract powdered." We have already indicated the method of determining the quantity of the oleo-resin and sugar of milk, and detecting the presence of *magnesia* or its carbonate; and will proceed to point out the means adopted by Dr. Lee to detect the remaining sophistications. Salt may be

\* Tilden's Journal of Mat. Med., Vol. I., pp. 74, 75.

detected by treating the portion insoluble in alcohol, with water, filtering, and adding a solution of nitrate of silver; when, if present, a white precipitate of chloride of silver will ensue, which is soluble in strong solution of ammonia, but insoluble in hot nitric acid.

If the *powdered root or vegetable matter* be present, it will remain undissolved after treatment with hydrochloric acid.

If the substitution be a *powdered alcoholic extract*, it should be entirely soluble in alcohol.

If an *hydro-alcoholic extract*, a part only would be soluble in alcohol, but the remaining portion should entirely dissolve on treating with water. The quantity of Iridin may be readily determined in either alcoholic solution, by the process already given.

If an *aqueous extract* be substituted, it would be soluble in water but insoluble in alcohol.

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### UNIFORM WEIGHTS AND MEASURES.\*

We are glad to notice that, on the motion of Mr. W. Ewart, a Select Committee has been appointed "to consider the practicability of adopting a simple and uniform system of weights and measures, with a view not only to the benefit of our internal trade, but to facilitate our trade and intercourse with foreign countries."

The consideration of improvements in this direction is not a new topic; it has been before the public for the last quarter of a century. About that period the late Major-General Pasley, C.B., F.R.S., published a volume on the expediency of simplifying and improving the weights, measures, and money used in this country without materially altering the present standards. The establishment of a simple and uniform system, applicable to every kind of weight and measurement, is greatly to be desired.

In former times, when commercial intercourse with foreign countries was of the most restricted character, and a rude system of barter, carried on almost exclusively between people of the same country, supplied their limited wants, arbitrary divisions of money, weights, and measures were matters of little import. But now that steam navigation and commercial enterprise have explored the world, and our trade is conducted on a huge scale with all the nations of the earth, the simplification and better comprehension of their metrical and ponderary systems, and a reform of our own tedious and arbitrary divisions, are essentially necessary. It is chiefly in relation to our foreign trade that the adoption of a general uniform system of weights and measures would be the most important and useful. Mercantile transactions cannot be made too clear, and there is ample room for improving our system of weights and measures, which is as cumbersome and unintelligible to the foreigner as the diversity existing in various countries is troublesome to ourselves in commercial relations.

We appeal to the common sense of the wholesale trader and merchant, and, indeed, to the public at large, whether there is any subject fraught with such difficulties, or attended with more trouble and loss of time, than the reductions of foreign coins, weights, and measures into British equivalents, with no reliable standard to follow?

Scarcely a day passes but we find mention made in the daily journals, on the arrival of foreign mails, of piculs, coyans, arrobas, maunds, candies, catties, chetwerts, and a hundred other weights with which the English public are unfamiliar, and most of these varying, too, in the different localities in which they are used. How few are there prepared to reduce these promptly and accurately into English values! If this be the case at home, how much more perplexing is the difficulty in the various countries themselves!

Proceed up the Mediterranean, and you will find liquid measures of the same name, which differ according as they are used for oil or wine; dry measures varying in capacity according to the species of grain meted. Stretch away through the Red Sea, and frazlas, ardebs, cantaros, and others, will differ materially from those in use in Egypt. Not less

\* From *The Grocer* of April 12.

variable are the candies, maunds, and bahars of the East. But we cannot take exception to others for the variety and multiplications of divisions of weights and measures they may have in use, when we are equally as blameable.

Take, for example, the article butter,—at Bedale it is sold by the roll of 24 ounces, at Norwich by the pint of 20 oz. (formerly 22 oz.), at Chester by the dish of 24 oz., and at Hyde by the dish of 22 oz.; at Stoke-upon-Trent and Bridgend by the lb. of 18 oz., although it varies from 16 to 24 oz., at Newry by the lb. of 20 oz., and at Darlington by the lb. of 24 oz. So far from the imperial bushel of eight gallons being generally adopted as the standard, the bushel by which grain is sold in the Middlesex markets contains  $8\frac{1}{2}$  gallons; in Shropshire,  $9\frac{1}{2}$ ; in Cheshire, nearly 10; in some parts of Cornwall, 16, and in others, 24; in Westmoreland, 16 for wheat, and 24 for barley and rye. Then we have such local measures as coombs, stacks, bolls, strikes, winches, windles, and hobbits, which have, too, a variable local value. Business men feel, and reflective men know, the vast importance of a universal conformity of weights and measures, and the first step to any harmonious settlement is to see clearly, and at a glance, where the differences lie, and what they are. The way to a common system of weights and measures, as the basis of intercourse, is to be found, not by the absorption of other and diverse systems into one, but rather by a compromise into which all may blend.

At the last Statistical Congress, held in London in July, 1860, the Government delegates from all countries in which the metrical system is not in use, were requested to urge upon their respective Governments the great advantages attending the adoption of the metrical system of weights and measures, and that all changes hereafter made should have in view the bringing of this system into general use. Each Government was also requested to institute an inquiry into the existing weights and measures, whether local, customary, or established by law, so that comparative tables may be formed, by reducing them all to the terms of the metrical system. An International Committee was also nominated, to whom the results of these inquiries were to be submitted, for the purpose of preparing a report for the next Congress on the actual systems in use, and on the best means of removing the obstacles that may exist in any country to the establishment of the metrical system in weights and measures.\*

The simplicity, convenience, and efficiency of the decimal system of money and accounts, recommend it for general adoption. Its introduction into this country would pave the way for a similar division in weights and measures, by making the hundred-weight avoirdupois 100 lb., as in Troy weight. We might then have ten pints to the gallon, ten furlongs to the mile, ten inches to the foot, &c. The consideration of this subject is making rapid progress all over the world.

The American Mint and the British Mint and Bank of England have long repudiated pennyweights and grains in the mode of weighing and keeping accounts, using only the Troy ounce and its decimal fractions. The sanction of law had previously been obtained in the States for doing away with carats and carat grains in the expression of fineness of gold, and of an equally cumbrous notation for the fineness of silver, substituting the simple millesimal form introduced by French assayers, and becoming general in Europe. But we are still annoyed with another standard weight,—the avoirdupois pound, with its tedious and arbitrary divisions.

If a general uniformity could be made to prevail over the surface of all countries having commercial relations with each other, the particular advantage would be increased to a universal benefit. The French having long felt the necessity for an amended system of weights and measures, from the great inconvenience entailed on commerce through the slovenly and absurd customs prevailing, by which each city and province arbitrarily varied its measures of length and capacity, &c., in 1840 adopted a new and improved system founded on decimal computations. The metrical system thus brought into use was found to greatly facilitate calculations, as it presents simply compounds and subdivisions by ten and by five. This system is gradually being adopted by many countries, as Belgium, Switzerland, &c.

\* A very perfect collection of the coins, weights, and measures of all countries will be exhibited in connection with the class of Philosophical Instruments at the International Exhibition.—ED. CHEMIST AND DRUGGIST.

May 15, 1862.]  
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What is chiefly required is the adoption of some general system of practical application, and, above all, a careful nomenclature, as well as the abolition of a host of unnecessary duplicate tables of weights and measures, apothecaries', Troy, wool, and a dozen other peculiar and unnecessary class weights, which may be effectively superseded by one carefully arranged set of weights and subdivisions.

Habit and long-prevailing custom offer an obstinate resistance to the contemplated change; but certainly uniformity at home for each individual country is both practicable and desirable, even if a perfect uniformity, founded on some rational and permanent basis for the whole civilized world, be a measure not likely to be realized in our generation.

## THE NATURAL ORDERS OF PLANTS.

### SCROPHULARIACEÆ—THE FIGWORT ORDER.

THE plants of this order are met with in abundance in all parts of the globe, from the coldest to the hottest regions. According to Lindley, "one species is found in Melville Island, and they form about one twenty-sixth part of the flowering plants of middle Europe, and about one thirty-sixth of those of North America. In all India, New Holland, and South America, they are common, and the sterile shores of Tierra del Fuego are ornamented with several genera." They consist of herbs, or, rarely, shrubby plants, and are usually scentless, or at all events not aromatic,—a few are fœtid. Several of them, as the genera *Pedicularis*, *Euphrasia*, *Melampyrum*, &c., are root parasites; others, as *Calceolaria*, *Antirrhinum*, *Mimulus*, *Veronica*, *Digitalis*, &c., are cultivated in our gardens on account of the beauty of their flowers. The order belongs to the class Exogens, sub-class Corollifloræ, and, according to the arrangement of Mr. Miers, contains about one hundred and sixty genera, and one thousand seven hundred species.

**BOTANICAL CHARACTERS.**—The leaves are generally opposite. The inflorescence (the manner in which the flowers are arranged on the axis) axillary. The flowers are irregular (the divisions of the calyx and corolla of unequal size, or united in unequal degrees) and anisomerous (the different parts of the flower being unequal in number). The calyx (outer floral covering) persistent (does not fall off), and four or five partite. Corolla (inner floral covering) more or less irregular, four or five partite, and remarkable for the variety of forms which it assumes. In the genus *Antirrhinum* (Snapdragons) it is ringent (gaping); in *Calceolaria* it is termed calceolate (slipper-shaped). In *Linaria*, Yellow Toadflax, the lower part of the corolla is lengthened out into spurs, and the upper part is ringent, whilst in the *Veronicas* all irregularity nearly disappears. The aestivation is imbricated (the parts overlapping one another like the tiles of a house). The stamens (male organs) are either two, as in the *Veronica*, or four, and didynamous (two long and two short), as in the *Digitalis*; rarely five, or with a rudimentary fifth, as in *Verbascum*. The anthers (the cellular cases on the apex of the stamen containing the pollen) are introrse (the valve, or part whence the pollen is discharged, turned towards the female organ). The ovary (that part of the pistil or female organ which contains the rudimentary seeds) usually two-celled, its component carpels (rolled up leaves of which the pistil is composed) being placed anterior and posterior. Style (that part of the female organ which connects the stigma with the ovary), one. Fruit usually capsular, rarely baccate (berry-shaped), and generally two-celled. Placentas (that part to which the rudimentary seeds or ovules are attached) axile (arranged in the centre or axis). Seeds generally numerous, albuminous. Embryo straight or slightly curved.

#### DISTINCTION FROM OTHER ORDERS.

It may be distinguished from *Acanthaceæ*, the *Acanthus* order, and *Bignoniaceæ*, the *Bignonia* or Trumpet-flower order, by its albuminous seeds and small cotyledons. From *Crescentiaceæ*, the *Crescentia* or Calabash order, *Gesneraceæ*, the *Gesnera* order, and *Pedaliaceæ*, the *Pedaliium* order, by its axile and not parietal placentas; from *Lentibulariaceæ*, the *Butterwort* order, by its axile, not free central placenta; from *Lamiaceæ*, the

Labiata order, by its ovary, which is generally two-celled, and not deeply four-lobed; from *Solanaceæ*, the Solanum or Potato order, by the general want of a fifth stamen and its imbricated corolla.

The order was divided by Bentham into three sub-orders, termed *Salpiglossideæ*, *Antirrhinideæ*, and *Rhinanthideæ*. The first of these has been transferred by Miers, together with certain genera formerly classed under the order *Solanaceæ*, as *Atropa*, *Datura*, *Hyoscyamus*, *Nicotiana*, &c., to a new group constituting the order *Atropaceæ*, or the Nightshade order.

The distinctions between the sub-orders are founded on the nature of the inflorescence, whether centrifugal (when the flowers expand first in the centre or at the apex, and last at the circumference or base), centripetal (when they expand first at the circumference or base of the inflorescence, and last at the centre or apex), or compound, and the æstivation of the corolla.

GENERAL PROPERTIES.—The plants of this order must be regarded with suspicion, as many of them are poisonous. Some are bitter, and others acid, astringent, purgative, emetic, and diuretic, whilst a few possess narcotic properties.

#### PRINCIPAL PLANTS AND USES.

BRAMIA.—The species *Serrata* is said to be employed in Brazil in the preparation of baths for rheumatic persons. It possesses a strong penetrating odour.

CALCEOLARIA.—The roots of the species *Arachnoidea* are said to be largely collected in Chili for dyeing crimson, under the name of Relbun; and other species are stated to act as purgatives, or even emetics.

CAPRARIA.—The species *Bifolia* is said to be employed in Central America as tea.

CHELONE.—The species *Glabra* is a perennial, indigenous to North America, where it is esteemed tonic, laxative, and anthelmintic, and has long enjoyed considerable reputation as a remedy in jaundice and hepatic diseases, as well as for the removal of worms. It is commonly termed Balmony, Snakeshead, Turtlebloom, Turtlehead, &c.

DIGITALIS.—An article on the species *Purpurea* will be found in our Botanical Calendar for June;\* other species, as *Grandiflora*, *Lævigata*, *Lutea*, *Tomentosa*, &c., possess very similar properties.

EUPHRASIA.—The species *Officinalis*, Eyebright, or Euphrasy, an indigenous plant, and one of the parasitic genera of this order, was formerly used in cases of ophthalmia. It derives its generic name from *εὐφραίνω*, to give joy, as by its reputed power of restoring vision. It is slightly bitter and aromatic, and is said to be found beneficial in cough, hoarseness, headache, and earache, which have supervened in catarrhal affections.

FRANCISCEA.—The whole plant of the species *Uniflora*, particularly the root, is termed Manacá in Brazil, and is said to prove of great value as an excitant to the lymphatic system. It is termed Mercurio Vegetal by the Portuguese, in consequence of its large use in syphilis. The inner bark and all the herbaceous parts are said to be nauseously bitter. It is regarded as alexipharmic, emetic, emmenagogue, and purgative, and in over doses proves an acrid poison.

GELSEMINUM.—An article on the species *Sempervirens* will be found in our number for March.†

GRATIOLA.—The species *Officinalis*, Official Hedge Hyssop, had formerly a place in our pharmacopœias. It is a perennial, indigenous to the south of Europe, and particularly abundant in Switzerland, where, according to Haller, it grows in the meadows in such quantities as to render them useless as pastures. It is bitter and acrid, and acts as a cathartic, diuretic, and emetic, and in large doses as an acrid poison. It has been used in visceral obstructions, liver affections, dropsies, scrofula, and venereal diseases, and is said to have been found serviceable in hypochondriacal affections. It is reported to have formed one of the chief ingredients of the celebrated gout medicines called Eau Medicinale. The plant was formerly termed Gratia Dei, on account of its efficiency as a medicine. The leaves and roots of the species *Peruviana* are emetic and purgative.

LEPTANDRA.—The species *Virginica* (*Veronica Virginica*, Linn.), Culver's root, Culver's

\* Vol. 1, page 215.

† Vol. 3, page 70.

physic, is indigenous to the United States, where it is reputed cholagogue, laxative, and tonic. It is employed in hepatic affections, and bilious and typhoid fevers, as a laxative and tonic; also in dyspepsia, diarrhoea, and dysentery. A concentrated preparation termed *Leptandrin* is prepared from it, containing the more active medicinal principles. It is largely employed in American practice, and has been recently introduced as a remedy into this country.

**LINARIA.**—The species *Cymbalaria* has a warm cress-like flavour, and has been recommended as an antiscorbutic. According to Hamilton it is given with sugar in India, in the cure of diabetes. Lindley, however, considers it probable that his remarks apply to the species *Ramosissima*, and thinks it merits a trial in the treatment of disease, by European practitioners. The species *Elatine* is said to be bitter and purgative. The species *Vulgaris*, Yellow Toad-flax, is said to be bitter, diuretic, and purgative. A decoction of the flowers has been recommended as a wash in chronic diseases of the skin. The odour of the flowers is stated to be poisonous to flies, and they are reported to be sometimes boiled with milk, or the juice pressed and mixed with milk, to destroy these insects. They are said to yield a yellow dye.

**MELAMPYRUM.**—This is one of the parasitic genus. Cows are said to be very fond of feeding on the species *Pratense* and others. They are termed Cow-wheat, and according to Linnæus, the best and yellowest butter is made where they abound.

**MIMULUS.**—The leaves of the species *Guttatus* are said to be eaten as salad. According to Balfour, the species *Luteus* has become naturalised in many parts of Britain, as in the neighbourhood of Edinburgh, on the shores of the Clyde, the Isle of Skye, Perthshire, &c. The species *Moschatus* is cultivated for the sake of its musky odour.

**PEDICULARIS.**—This is another parasitic genus, the species of which are said to be acrid, but are eaten by goats.

**SCIROPHULARIA.**—The leaves and roots of the species *Aquatica*, Water Figwort, and of the species *Nodosa*, Knotty-rooted Figwort, are emetic and purgative, and are thought to be slightly narcotic. The fresh leaves of the latter are sometimes used in the form of an ointment or fomentation, as an application in skin diseases, and to indolent tumours, &c. The tuberous root was formerly esteemed in Scrofula, hence probably the generic name.

**SCOPARIA.**—An infusion prepared from the species *Dulcis*, is said to be used for the cure of agues by the Indians of Spanish America, and by the Brazilians against hemorrhoidal affections.

**TORENIA.**—The juice of the leaves of the species *Asiatica* is considered to be a cure for gonorrhœa, on the Malabar coast.

**VANDELLIA.**—The species *Diffusa* is said by Lindley to be highly valued in Guayana as an antibilious emetic and febrifuge, and to be a most efficacious remedy in malignant fevers and dysentery, especially in cases depending upon a disordered state of the liver. It is called Haimarada by the Arowak Indians, and Bitter Blain by the Dutch creoles.

**VERBASCUM.**—The flowers of the species *Lychnitis* are said to be sometimes used to destroy mice. The seeds of the species *Nigrum* and *Thapsus* are stated to be used by poachers to stupefy fish. The leaves of the species *Thapsus* are emollient, demulcent, and slightly narcotic; they have a mucilaginous, bitter taste, and a very slight odour.

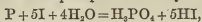
**VERONICA.**—The leaves of the species *Officinalis* have been employed in this country and on the Continent as a substitute for Chinese tea; hence the plant is sometimes called *Thé de l'Europe*.

A SLIP OF THE "LANCET."—In reply to an unfortunate correspondent who signs himself "a chemical student," our medical contemporary last week writes:—"Allotropic phosphorus does not fume, and is not so liable to induce disease of the jaw of the lucifer-match maker as the ordinary phosphorus; but its cost is greater, as *is also its inflammability*. These are considerable drawbacks." We gave a few trustworthy facts about this peculiar modification of phosphorus in our March number (page 85), the most striking of which we now repeat for the information of both the chemical student and his medical teacher:—"It may be handled without fear, as it does not become luminous until heated to 392° F., or inflame below 500°." Poor Schrötter, who is at this moment in London, would be somewhat shocked to hear that the great medical journal of England gave currency to the notion that inflammability was a "considerable drawback" to his phosphorus.

## SCIENTIFIC INTELLIGENCE.

**Preparation of Iodide of Potassium.**—We extract the following observations on Baron Liebig's new process for preparing iodide of potassium, from an interesting paper by W. S. Squire, Ph. D., F.C.S., read at a recent meeting of the Pharmaceutical Society:—Of the many processes which have been recommended for the preparation of iodide of potassium, I believe only three have been found at all practical:—1. A solution of iodide of iron or zinc is decomposed by a solution of carbonate of potassium. 2. Iodine is added to a warm solution of hydrate of potassium; the colour disappears with the formation of iodide and iodate of potassium, the solution is evaporated to dryness, and heated with charcoal, which reduces the iodate to iodide. 3. Iodine is added to a solution of sulphide of barium; in this case sulphur is precipitated, and iodide of barium is formed. This solution is boiled with powdered sulphate of potassium; iodide of potassium then remains in solution, and may be filtered from the insoluble sulphate of barium. This last process has the great disadvantage that the product is rarely, if ever, free from sulphur compounds, and is rather inclined to blacken when heated; in other respects it is a beautiful preparation, and is very free from sulphates, chlorides, and other impurities generally found in iodide of potassium. In the first two processes purified pearlshes are used instead of pure carbonate of potassium, which is too expensive for the purpose. In this way the various impurities of the potashes find their way into the iodide of potassium, or the mother-liquors must be rejected, and the iodide recovered from them, which is not found to be an economical plan.

In order to meet these objections, Baron Liebig has proposed the following mode of preparation:—1 part of phosphorus is placed in a basin, and covered with about 40 parts of hot water, and 20 parts of iodine are gradually added, with frequent stirring; violent action takes place, and a great portion of the phosphorus is converted into the amorphous variety, which, however, in no way interferes with the process, as the amorphous phosphorus reduces the iodine just as well, though not quite so fast. The colourless liquid, which consists of a solution of phosphoric and hydriodic acids,



is then poured off from any excess of phosphorus, and milk of lime is added until the mixture becomes alkaline; the whole is now brought upon a linen filter, and the precipitate, which consists of phosphate of calcium, is pressed and washed; the filtrate contains nothing but iodide of calcium, and is now to be boiled down with twelve parts of sulphate of potassium in powder (this quantity is not quite sufficient to decompose the iodide of calcium). When concentrated to about half, the whole is allowed to cool and remain at rest for six hours, and then filtered, the precipitate being pressed as before. A small quantity of pure carbonate of potassium is then added to the filtrate, which removes every trace of lime, and the filtered solution now yields, on evaporation, crystals of pure iodide of potassium. A quantity of iodide of potassium, prepared in this way by Pettenkofer, yielded almost the theoretical quantity. By a modification of this process we may prepare the iodides of sodium, lithium, barium, strontium, calcium, magnesium, manganese, ammonium, etc. etc.

In repeating Liebig's experiments I find the iodides prepared in this way very easily acquire a peculiar pinkish hue, and that it is very difficult to get them to crystallise properly; what the cause of this is, I do not know, but the objection is completely removed by fusing the salt before crystallisation,—the iodides after this treatment crystallise beautifully, and retain their colour remarkably well. A specimen of iodide of ammonium prepared in this way, by fusing the iodide of barium, was found to have no superiority as an iodizer for photographic purposes; and this is perhaps the best test of its purity. With this slight modification, I think that the process of Baron Liebig is one of the best ever proposed for the manufacture of iodide of potassium; the potassium salt used is at once the cheapest and the purest, and the only other item of cost in the materials is the phosphorus; but one ounce of this body is sufficient for the

production of one pound and a half of iodide of potassium, so that it only costs about one penny for every pound of iodide manufactured by this process.\*

**Useful Applications of Carbolic Acid.**—The powerful antiseptic properties of carbolic acid have long been known, but its extended use has been delayed, owing to the difficulty experienced in obtaining it in considerable quantities. It is now, however, principally owing to the labours of Dr. F. Crace Calvert, produced on a large scale, and this chemist has proposed its application to many valuable purposes. As a medical agent it seems to have all the useful properties of creosote in an exalted degree, with some peculiar actions of its own, and is being applied with marked success in the Manchester Royal Infirmary and similar institutions, in cases of chronic diarrhoea, obstinate vomiting (even after creosote has failed), and as a disinfecting wash for ill-conditioned ulcers and gangrenous sores. It has also been applied successfully in cases of foot-rot, a disease which annually carries off large numbers of sheep. It has been employed for the preservation of gelatine solutions and preparations of size made with starch, flour, and similar materials, and of skins, and other animal substances. It appears to act strongly as an anti-ferment, and Dr. Calvert states that it is one of the most powerful preventives of putrefaction with which he is acquainted.†

**Determination of the specific Gravity of Mineral Substances.**—Dr. T. L. Phipson has described a very simple method which he employs for taking the specific gravity of minerals.‡ It consists in measuring the water displaced by a given weight of the substance experimented upon. He takes a glass cylinder graduated in cubic centimetres, and fractions of cubic centimetres, and after pouring in some water, carefully notes its height in the cylinder. A given weight of the mineral is then introduced, and when the air-bubbles have disappeared, the height of the liquid is noted again. Now, 1 cubic centimetre of water weighs 1 gramme; therefore, if, after the introduction of 5 grammes of mineral, it is found that the water has risen 2.5 cubic centimetres,  $\frac{5}{2.5}$ , gives the specific gravity of the mineral. This method necessitates only one weighing.

**New French Remedies.**—The Paris correspondent of the *Lancet*, whose letters are always lively and interesting, thus alludes to some recent discoveries of the French chemists. "M. Swann has lately brought forward as an antiscorbutic a preparation which is likely to beat out of the field the still famous 'sirop antiscorbutique' of the French formulary. This new depurative is a syrup made with the fresh juice of the *Diplotaxis muralis*, a cruciferous plant abounding in the environs of the capital, and already well spoken of by M. Moquin-Tandon, in his 'Elements of Medical Botany.' The same chemist has also given to the world as a substitute for quinine, both in regard to antiperiodic and tonic virtues, a preparation of the *Variolaria amara*, which I hear very favourably mentioned. The green oyster of Marennes, dear, if not to the heart, at least to the stomach and pocket of the Paris gourmand, has lately been subjected to analysis by M. Berthelot. This chemist was anxious to solve the problem relative to the nature of the green colour which distinguishes this bivalve from its paler and less prized compeers, and on which its gastronomic merits are found to depend. He has discovered that the pigmentary element is some salt of iron, but whence derived, or what its exact composition, he has been utterly unable to discover. Medical men can now conscientiously recommend to their delicate patients the 'vol au vent aux huîtres' as an 'elegant preparation' of steel, or substitute that agreeable solid, the oyster patty, for the more than questionable compound iron mixture."

**Action of Nascent Hydrogen on Sulphuric Acid.**—It is well known that sulphuric acid is reduced by the nascent hydrogen, disengaged by means of zinc and hydrochloric acid, to sulphur and sulphuretted hydrogen. Kolbe has observed§ that sulphuric acid is also similarly reduced. This he found by adding pure concentrated sulphuric acid through a funnel-tube, to a mixture of water and zinc placed in a Woulfe's bottle. The gas is produced in larger quantities the hotter the mixture is which gives off hydrogen, and the more concentrated the sulphuric acid on coming in con-

\* *Pharmaceutical Journal* for May.

† *Popular Science Review*.

‡ *Chemical News*, May 3.

§ *Liebig's Analogy*.

tact with the zinc. When the sulphuric acid is previously diluted with double its volume of water, the disengaged hydrogen is quite free from sulphuretted hydrogen. If now concentrated sulphuric acid be added there is a perceptible smell of sulphuretted hydrogen.

**Chloride of Lime an Insecticide.**—In scattering chloride of lime on a plank in a stable, all kinds of flies, but more especially biting flies, were quickly got rid of. Sprinkling beds of vegetables with even a weak solution of this salt effectually preserves them from the attacks of caterpillars, butterflies, mordella, slugs, &c. It has the same effect when sprinkled on the foliage of fruit trees. A paste of one part of powdered chloride of lime and one-half part of some fatty matter, placed in a narrow band round the trunk of the tree, prevents insects from creeping up it. It has even been noticed that rats and mice quit places in which a certain quantity of chloride of lime has been spread. This salt, dried and finely powdered, can, no doubt, be employed for the same purposes as flour of sulphur, and be spread by the same means.\*

**Tincture of Iodine.**—It is known that tincture of iodine does not long preserve its colour, a portion of the iodine changing to hydriodic acid. M. Dropet† endeavours to show that the hydrogen necessary for the reaction comes from the water, and not, as is supposed by other chemists, from the alcohol. Among other experiments, he has shown that a tincture prepared with almost absolute alcohol, 34 centigrammes out of 3 grammes of iodide, were in eighteen months transformed into hydro-iodic acid. Another tincture, prepared with the same proportion of alcohol at 95°, lost 41 centigrammes; and a third, with alcohol at 86°, 67 centigrammes. These tinctures were preserved together in a dimly-lighted cupboard. M. Dropet concludes that in making tincture of iodine it would be better, for two reasons, to replace the alcohol at 86° by that at 95°. In the first place, the tincture keeps better; in the second, it is made more quickly, since iodine is much more soluble in concentrated than in weak alcohol.



*Manual of British Botany, containing the Flowering Plants and Ferns arranged according to the Natural Orders.* By CHARLES CARDALE BABINGTON, M.A., F.R.S., F.L.S., etc. Fifth Edition. London: John Van Voorst. 10s. 6d.

THE appearance of a new edition of Professor Babington's well-known work affords us an opportunity for recommending it to our botanical readers as the most practical, trustworthy, and compact of all the British Floras. The volume being intended as a field-book or travelling companion for botanists, the author has wisely restricted the space allotted to each species as much as possible, by giving only such characters and observations as appear to be necessary for an accurate discrimination of the plants. Synonyms have been almost wholly omitted, and localities are only given for new or rare plants. In order to convey some idea of the distribution of plants throughout the United Kingdom, the letters E, S, and I have been appended to the descriptions of such species as have been found in England, Scotland, or Ireland. The descriptions of a considerable number of plants which only occur in the Channel Islands, and are therefore not properly parts of the British Flora, together with those which, though naturalized, have very slender claims to be considered as aboriginal natives, are included within brackets. By this arrangement the truly indigenous species are clearly distinguished from those which have little or no claim to be considered aboriginal. For the purpose of facilitating the discovery of the order to which an unknown plant belongs, an ingenious synopsis has been prepared, on the plan of the analytical keys used by the French school of botanists, but slightly modified so as to be less likely to mislead. As in the writings of even the most learned botanists the characters of the natural orders are far from definite, a concise

\* *Chem. News*, from Dingler's *Polytech. Jour.*

† *Repert. de Pharm.*, quoted in *Chem. News*.

synopsis of the genera, according to the Linnæan method, is also given, by means of which all the convenience supposed to be possessed by books arranged on that obsolete system is afforded to the student.

The present edition has been carefully revised throughout. The descriptions of several of the more difficult genera have been simplified, and the synopsis of the natural orders has been entirely remodelled. A concise glossary of the terms used in the book is a new and important feature of this edition. We are glad to find that the author has inserted the English names of our wild plants, for these names have so many pleasing associations that botanists ought never to ignore them.

The work consists of 450 pages of the most concentrated matter, yet this mass of facts relates solely to the Flora of our country. For information on the general principles of botany the student must consult other works. Professor Babington recommends Henfrey's *Rudiments of Botany*, edition 2, which was written as a companion volume, to persons commencing the study of botany.

In another portion of our Journal will be found particulars of the Botanical Prize for 1863, offered by the Council of the Pharmaceutical Society. Those who intend to compete for this prize will do well to purchase this admirable Manual of British Botany without delay.

*The Exchange: a Home and Colonial Monthly Review of Commerce, Manufactures, and General Politics.* London: Sampson, Low, and Co. Liverpool: James Woollard, 54, Castle-street. Nos. 1 and 2.

The proprietors of this periodical have, in a very spirited and able manner, endeavoured to supply a want which has been long experienced by the mercantile community. The idea has evidently been suggested by the success of "Hunt's Merchants' Magazine," which has a large circulation in the United States, and professes exclusively to represent commercial interests in their most extended sense. At present the only monthly publication we have in any way approximating this desideratum, is the "Bankers' Magazine," but its contents are restricted to financial matters, thus rendering it of slight value generally. Here, however, we have a journal issued on the first of every month, equal in ability to the *Economist*, and possessing the additional advantage of condensation of details, which will be found extremely useful from a practical point of view. The articles are varied and exhaustive, and the staff of contributors includes all our most eminent authorities upon the respective topics which must necessarily come under discussion.

The "American Conflict" of course is selected, and deserves special commendation. The claims of the Southerners to political consideration are set forth with judicial impartiality; the difficulties arising from the limited supply of "cotton" are also canvassed, and localities indicated where the cultivation of this important raw material may be practised with profitable results; but the most valuable feature is an admirable monetary and commercial review of the month, divided into four departments,—1. Money, Banking, and Shares; 2. English and Scotch Metals and Metal Manufactures; 3. The Textile and Fertile Manufactures; and 4. Corn, Provisions, and Foreign and Colonial Produce. The price is very moderate, and merchants and even retail traders will consult their own interests by supporting the publishers in this speculation. Much important information may be gleaned from this magazine, which may be made available for business purposes.

*Fourth Annual Report of the Mercantile Law Amendment Society.* Offices:—14, Gresham-street, E.C.

The adequate representation of trading interests in modifying, and, to a certain extent, controlling class legislation, is of the utmost importance.

Our leading statesmen and jurists in the discussion of proposed reforms, frequently overlook practical details, which if due attention had been called to at the time, would have prevented the partial failure of the measure when brought into operation. In order to supply a deficiency which had produced many untoward results, an Association was set on foot and established, designated the "Mercantile Law Amendment Society," which should command general support.

## NEW BOOKS.

- Babington's Manual of British Botany. Fifth Edition. 12mo. 10s. 6d. cloth.  
 Black's International Exhibition Guide to London. Maps. 4s. 6d. cloth.  
 Gosse's Romance of Natural History. New Edition. 2 vols., each 7s. 6d.  
 Holland's Essays on Scientific and other Subjects. 8vo. 14s.  
 Piesse's Art of Perfumery. Third Edition. 8vo. cloth.  
 Read's Popular and Mathematical Astronomy. Post 8vo. 5s. cloth.  
 Scoffera's Handy Book on the Chemistry of Soils. Post 8vo. 4s. 6d.

## PUBLICATIONS RECEIVED.

The Art of Perfumery. By G. W. Septimus Piesse. (Longman and Co.)  
 Pharmaceutical Journal.—Grocer.—Geologist.—Practical Mechanic's Journal.—Civil Engineer.—Scientific American.—Technologist.—Journal of Society of Arts.—Weldon's Register.—Medical Circular.



## SAVORY AND MOORE'S EFFERVESCENT CARBONATE OF LITHIA.

THE value of Lithia as a remedy for preventing the secretion of an undue amount of uric acid in the system, or of neutralizing its action when present in larger quantity, is now very generally appreciated; the drawbacks to its use being, that when taken in the usual form of effervescing lithia water it is bulky, and consequently not portable, and, moreover, expensive. To obviate these inconveniences, Messrs. Savory and Moore, of New Bond Street, have issued an effervescing preparation of lithia, each dose of which, containing four grains of the alkali, is included in a tube, the exact size of which is shown in the accompanying cut. This powder, which may be taken at mealtime, or any other period of the day, in same manner as soda or lithia water, is pleasant to the taste, and, moreover, offers the advantage of being portable, and extremely convenient in use.



**Legal Intelligence.**—*Dungay v. Guilen.*—This was an action brought before Mr. Justice Wightman at the Bail Court, by the plaintiff, a surveyor, against the defendant, a druggist, in Sloane-square, for negligence. It appeared that in June last the plaintiff was suffering from the gout, and he went to the defendant's shop and saw his assistant, and told him he wanted some "Smith's Gout Pills." The assistant gave him some pills in a box, and told him to take them twice a day. The plaintiff asked if there was any colchicum in the pills, and was told that there was not. The plaintiff asked if he might take three pills a day if two did him no good, and the assistant replied in the affirmative. The plaintiff took two of the pills on that day, and the next day took two or three, and on the two following days took three. After he took the last three he found himself suffering from trembling in the limbs. He went to his doctor (Mr. Goodrich), who advised him to go home; and he was ill in London until September, and was insensible for three weeks. He was afterwards sent to Margate, where he remained a fortnight. He had suffered from gout for many years, and had taken Bagster's pills, which had

been recommended by his manservant. The person who recommended the defendant's pills said they had done him good. During the plaintiff's illness the pill-box was shown to the defendant, who said there had been a mistake, and it was found that there was a great deal of colchicum in them. The medical man who attended the plaintiff said his face was swollen when he saw him in June. His tongue was hanging out of his mouth, and it was his opinion that he must have taken some preparation of mercury. It was not proper to give a man two grains of mercury a day. The plaintiff's health had suffered much from the effects of pills. His bill would be about ten guineas. Mr. Serjeant Parry submitted to the learned Judge that there was no case to go to the jury, which his lordship overruled. For the defence, Professor Redwood, Dr. Andrew Bailey, and Dr. Pettigrew, all gentlemen connected with the medical profession, were called, and said they had examined the pills, and found each pill weighed four grains, one of which was calomel. One of the pills taken on each day would not be dangerous. The man ought not to take calomel without being under the advice of a medical man. The pills were a good usual medicine. Mr. Lewty, the defendant's assistant, said he made up the pills. When he gave the plaintiff the pills he wrote on the box, "Two pills to be taken a day." He never heard any one complain of the pills before. The learned Judge having summed up, the jury returned a verdict for the defendant.

*Application for a Criminal Information against "The Lancet."*—Mr. Coleridge, Q.C., applied to the Court of Queen's Bench, on Thursday last, on the part of Dr. Hastings, for a rule, calling upon George Coker, the publisher of the *Lancet* (medical newspaper), to show cause why a criminal information should not be filed against him for a libel contained in that journal of the 22nd of March last, in a review of a work written and published by Dr. Hastings, entitled, "An Inquiry into the Medical Value of the Excreta of Reptiles in Phthisis." The learned counsel, in support of the application, read an affidavit of Dr. Hastings, denying the whole of the imputations and charges made against him, and read the article in question. It appeared that the reviewer had stated that about twenty years since the thoughtful and sober-minded men of the profession were startled by the appearance of a work entitled "Pulmonary Consumption successfully treated with Naphtha," by Dr. Hastings. This book, it was alleged, was marked by the wretchedness of its literary style and multiplied instances of bad grammar, and it was further stated that the profession was cautioned to be on its guard against Dr. Hastings's bold assertions. Referring to Dr. Hastings's new volume, the reviewer ridiculed the idea that there was any medicinal value in the excreta of reptiles, and stated that Dr. Hastings had within the last six months been summoned before the Censor's Board of the College of Physicians to answer a complaint of acting in a way derogatory to his profession, and concluded as follows:—"What can the public be thinking about, we would ask, when it supports and patronises such absurd doings? Will there still continue to be found persons ready to allow their sick friends to be washed with a lotion of serpents' dung? It may be so. Naphtha, oxalic acid, and this precious excrement are the expression of that eternal folly which must be fed." The learned counsel urged that *malæ fides* was clearly shown on the part of the author of the article, as he must have well known that at the time he referred to Dr. Hastings, having been summoned before the Censor's Board of Physicians, and on which occasion the present Solicitor-General acted as assessor, the charge was dismissed with ignominy. He also relied on another paragraph, as showing the animus of the evidence, in which, after extracting a portion of Dr. Hastings's book, he states:—"The conviction was at length forced upon me that there existed among the unexplored products of nature remedies more powerful than those,"—p. 2. To the discovery of these agents, then, Dr. Hastings has lately been applying his keenest powers. Need we say how more than fortunate has been the result? With our previous knowledge of the learned doctor, can we feel surprised at the announcement that he has at length 'found in the excreta of reptiles agents of great medicinal value in numerous diseases where much help was needed?' As regards that—to ordinary men—unmanageable malady, consumption, all our difficulties are now at an end. The public may fly to Dr. Hastings this time with the fullest confidence that the great specific is in his grasp at last."

The Lord Chief Justice saw nothing in the review that was not a fair criticism of a medical work. It might well be that one medical man believed that he had succeeded in discovering a remedy for a disease which had withstood all the efforts of the medical world to grapple with, and little wonder could be occasioned by the medical profession treating it with ridicule.

Mr. Coleridge—"The reviewer clearly accuses Dr. Hastings of being addicted to practices of quackery. He first brought forward the notion of the use of naphtha, and then fluoric and oxalic acids, which failed, and now he brought forward the excreta of reptiles. Dr. Hastings was, by the reviewer, held up to ridicule for his discovery, but it was right to mention that Dr. Latham, Dr. Lawrence, and Dr. Guthrie had been patients

of Dr. Hastings. The article is large and wide in its imputations against Dr. Hastings. It charges him with deceiving the public in bringing forth a specific which was dishonest, and which he knew had no foundation. The whole tenour of the article was to cast ridicule upon Dr. Hastings, and to charge him with quackery."

The Lord Chief Justice said the article was a "smart" article, but what was there in it which any man could really object to? It might be a joke upon the discovery; he saw nothing in it that might not be treated as fair and legitimate criticism; and no doubt a little hostility would arise in the medical profession on the putting forth of any new theory or discovery, but still it might turn out that the discoverer was right. If that Court was to interfere in such cases there would be an end of fair criticism; and, on the whole, looking at the article itself, he did not think it was of sufficient importance to call upon the Court to interfere.

Mr. Justice Crompton said, to his mind the article was not strong enough. Dr. Hastings had first brought forward naphtha, then fluoric and oxalic acid, and now he came to excreta of reptiles. There was nothing in the article complained of to justify that Court in interfering, and he was of opinion there ought to be no rule.

Mr. Justice Blackburn and Mr. Justice Mellor were entirely of the same opinion.

Application for criminal information refused.

Mr. Coleridge said of course he must bow to the decision of the Court, but he would ask that the rights of Dr. Hastings to bring an action might be reserved, as it might be said that coming to the Court for a criminal information was a bar to the action.

The Lord Chief Justice said they would make no order at all in the matter. Dr. Hastings might have recourse to whatever rights he had, and he must take the consequence.

**Poisonings.**—By *Corrosive Sublimate*.—At the Clerkenwell Police-court, George Newton, a tailor, aged 50, residing at 20, Little Camden-street, Camden Town, was charged with attempting to commit suicide by taking a quantity of poison. From the evidence of Police-constable 105 S, it appeared that he was called to the above address, and found the defendant in a dying state. He was told that the defendant had taken poison, and he at once conveyed him to the workhouse, where the stomach-pump was applied, and the defendant was recovered. The surgeon informed the constable that the defendant had taken corrosive sublimate, and had it not been for the fact that the defendant had been attacked with vomiting as soon as he had taken the poison, he would most certainly have lost his life. The defendant, in answer to the charge, said that he was in the greatest distress, and on the previous day he felt in such pain that he could not stand up against it any longer. He and a family of five others had, owing to his want of work, been compelled to live upon a few shillings a week that was earned by one of his boys. He was very sorry for what he had done, but would not do so again. Mr. D'Eyncourt said that distress was no reason why he should attempt to destroy himself. He should remand the prisoner for a week, to enable the police to make further inquiries. The prisoner, who appeared greatly distressed, was then removed.

On the 26th ult. an inquiry was held at the Duke of Sussex tavern, Whitechapel, by Mr. Humphreys, touching the death of Mr. Edward G. Warner, aged 31, an ornamental bronze castor, who committed suicide on Thursday morning last under circumstances of singular determination. Mr. E. Warner, 3, Prescott-street, the father of deceased, said that on the morning in question he was called to his son's room, and found him walking about the room raving mad. Witness gathered from the words that he uttered that he had taken a quantity of corrosive sublimate, and a large goblet, containing dregs of that poison, was found in the kitchen. A bottle of prussic acid was taken from his person. Medical assistance was immediately obtained, but death took place in less than an hour. He had not given any intimation of an intention to commit suicide, and there was no apparent motive for the rash act. Mr. G. Seymer, surgeon, said that on Wednesday evening deceased came to his surgery, and asked for an effervescent draught, saying that he had been drinking a good deal of wine. He then casually inquired if half an ounce of corrosive sublimate would produce death, and he was answered that it would. Witness then left for a few minutes, and the apprentice came to him and said that the deceased wanted to buy half an ounce of the sublimate, and was very urgent, affirming that he wanted it in his business. Witness positively refused it, and he went away, but returned in an hour's time with a packet in his hand, and said, "You see, doctor, I have got what I wanted, though you would not let me have it." The man left, and witness was called to him in the morning, and found that he had swallowed it all. The usual antidotes were employed; but, owing to the quantity of the poison taken, they proved unavailing. Verdict—"Temporary insanity."

**By Atropine.**—The following case, as illustrating the mutually counteracting effects of opium and belladonna, will interest our readers. It is given by William S. Steele, Esq., in the *Medical Circular*, but we extract it from the "Miscellanea" of this month's *Pharmaceutical Journal*.

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After trying the effect of the hypodermic injection of twenty minims of tincture of belladonna, with little or no effect, on a patient aged thirty years, suffering from sciatica, Mr. Steele observes:—"About ten the next morning I injected into the same place a solution containing one-eighth of a grain of atropine. I left my patient for about ten minutes; on my return he complained of being very faint and ill, and of being unable to see. In a short time he became delirious. The pupils were dilated to the utmost possible extent; the mouth and fauces were extremely dry and red; the pulse was rapid and feeble; there was no appearance of pain; on the contrary, the sensations seemed to be of a pleasing character. On being aroused, he was capable of answering, in monosyllables, questions put to him. Having read of cases of poisoning by belladonna in which opium had been given, I determined to try it; I therefore gave him forty minims of the tincture of opium in brandy and water; this not having any apparent effect, after waiting a quarter of an hour, I repeated the dose. In a little time my patient became rather more conscious, so an hour after the second dose I gave him sixty minims more. Finding him gradually becoming more conscious, I continued the opium in smaller doses until four o'clock in the afternoon, at which time he had taken 240 minims of the tincture. The delirium had then ceased, and he was quite sensible; he told me that a few moments after the atropine was injected he felt very ill, but directly after he became insensible, and had not the slightest recollection of anything that had happened during the day. He had a good night, but was not in the slightest degree narcotized by the opium. I am glad to say the pain was almost removed. The patient was not in the habit of taking opium in any form."

*Suspected Attempt by Oil of Vitriol.*—At Marylebone Police-court, on Wednesday, the 23rd ult., Constance Wilson, aged forty, was placed in the dock before Mr. Yardley, for final examination, on the charge of administering oil of vitriol to Mrs. Sarah Cornell, with intent to murder her. Mr. Vaughan appeared to conduct the prosecution; Mr. Webber attended on behalf of Mr. Meacham, a chemist; and Mr. Neale defended the prisoner.

From what has already been gone into in this case, it appears that prosecutor's husband—from whom she had been separated about nine months—introduced the prisoner to her, at her own house, 108, Crawford-street, by the name of Taylor. After this they continued to visit one another—prosecutrix sometimes going to the prisoner's house, at Kennington, and at others the prisoner coming to see her. Upon each of the occasions of a visit prosecutrix alleged she was always taken ill. Upon the occasion of the present charge, prisoner called at prosecutrix's house on a visit for a couple of days. On the second day she was suddenly taken very ill, and at the prisoner's suggestion she gave her fourpence and a bottle to fetch some tincture of rhubarb. Prisoner returned from Mr. Meacham, the chemist, bringing what she termed a "soothing draught," saying that the doctor would not give her the tincture. As she was about to pour out the draught prosecutrix's son came in, when prisoner sent him out for some gin, and made prosecutrix go to bed. After she was in bed prisoner poured out part of the medicine into a glass, and placed it in her hand; after which she poured something more in, when the glass became very hot, and almost burnt her fingers. She complained to prisoner about the glass becoming so hot, when she said, "Drink it up, it will warm you; the doctor says so." She placed it to her mouth to drink it up, but as suddenly threw it from her mouth over her night-dress and bed-clothes. After this the prisoner made off, and was, after some stratagem on the part of Serjeant Boden, 11 D, taken into custody as she was walking arm-in-arm with prosecutrix's husband. The bed-clothes and night-dress were produced, and appeared quite rotten from the effects of some burning acid being thrown upon them. Her (prosecutrix's) mouth was much burnt, as the medical gentleman said, from oil of vitriol being administered to her. The fire-irons and fender were also burnt, as if from acid.

Mr. Vaughan now recalled Mrs. Cornell, who said at the time prisoner came to her on the 13th of February she was in possession of £10, and she (prisoner) was aware that she had it ready for the rent. She asked her the question about the rent. She was not aware that prisoner was keeping company with her husband. At the time of her marriage there was a settlement made upon her. She was not in the habit of receiving an annuity. She received the rent from the lodgers in the house—a gentleman's lodging-house.

The assistant to Mr. Meacham, chemist, of Crawford-street, Marylebone, said the prisoner came into the shop and purchased a black draught; that was all she had. There was some conversation between them as to drugs, but he could not tell the words now, as he was busy at the time.

Serjeant Boden, 11 D, deposed that on the 7th inst. he received a glass, and the phial which had contained the black draught, from Mrs. Cornell. Mr. Yardley—"Is that the bottle supplied by the doctor?" Mr. Vaughan—"You will find, your worship, the name of Meacham, 105, Crawford-street, Montague-square, operative chemist."

Mr. Meacham's assistant recalled—He had not sold prisoner any oil of vitriol. He made up the draughts himself, and they were all placed in a drawer by themselves, so that no mistake could occur.

Frederick Robson, son of Mrs. Cornell by a previous marriage, said the glass and bottle produced were the identical ones given to his mother. Mr. Yardley—"When you took the bottle and glass back to the doctor's, did they feel warm?" Witness—"The glass felt quite hot." Mr. Yardley, "Are you sure the bottle was not warm?" Witness—"I am quite sure it was not?" Mr. Neale—"Had you mentioned before this about the glass being warm?" Witness—"I did not mention it until I was asked."

Mary Anne Sadler said she resided at 4, St. Leonard's-square, Maldon-road, Kentish-town. At the commencement of February the prisoner lodged with her, along with a person calling himself Mr. Richards. She went away on the Thursday evening about half-past seven, and returned on the following Saturday evening. Before she went away she said she thought she was pregnant. On her return she said she had been to her medical man, and was taken so bad that she could not get home.

Mr. Yardley—"There is enough evidence before me to send the case to a jury. The prisoner is committed for trial."

Mr. Vaughan intimated to his worship that the prisoner had been in custody at Boston, on suspicion of poisoning, in the name of Taylor. There was also a gentleman present now watching the case on behalf of the relatives of a female who died under very suspicious circumstances whilst on a visit from Westmoreland to prisoner eighteen months ago. Prisoner was then removed.

*By Lobelia.*—Mr. Humphreys lately held an inquest on the body of Elizabeth Taylor, aged forty-five, who, it was alleged, had died from the effects of a quack medicine procured from the shop of a herbalist. The evidence went to prove that the deceased, who was a seamstress, had suffered from disease of the heart, and had been in the habit of taking lobelia powders, which she purchased at the shop of a herbalist. Mr. John William Kay, M.R.C.S., said he had made a post-mortem examination of the body. The chest was full of fluid blood, and much congested. He had examined the powders, and was of opinion that the use of them, as deceased suffered from disease of the heart, would have a depressing effect upon that organ, and produce syncope. The jury, after some further remarks, returned a special verdict to the following effect: "That the deceased died from disease of the heart, accelerated by the use of lobelia powders sold to her by a herbalist unknown."

*By Arsenical Paper-hangings.*—Mr. Humphreys lately conducted an investigation at the Freemason's Arms, Limehouse, touching the death of Anne Amelia Turner, aged three years, the last of a family of four children, who all died within the last two months, with strong symptoms of arsenical poison, alleged to have been occasioned by inhaling the emanation from green paper-hangings.

Dr. Letheby, professor of chemistry of the London Hospital, said—"I received from Dr. Orton the stomach and viscera of deceased, and also a portion of green paper. I examined the latter, and found that it contained arsenic, loosely adherent, in the proportion of three grains to the square foot. There was no glaze, and it could be very easily rubbed off. I examined the viscera, but could not find arsenic. The symptoms described by Dr. Orton were those of arsenical poisoning. I have known effects of the same kind produced by the poisonous powder of such paper being absorbed and inhaled while floating in the atmosphere. In the absence of disease death might have been caused by arsenic, though I could not trace it in the system. Owing to the poisoning being gradual, it was possible that the trace might be wanting, though the effect would be fatal. The children's not sleeping in the room would not make much difference. I have known two children die from arsenical poison imbibed while playing for a few hours daily in their father's library."

Dr. Orton, recalled, said—"I have no hesitation in saying that deceased died from chronic poisoning by arsenic taken into the system in minute quantities. The bodies of all the four deceased children remained unusually long uncomposed."

After a very brief consultation the jury returned a verdict of "Natural death." The Coroner—"I cannot refrain from expressing my entire dissent from the verdict. The medical evidence not only proves that there was no disease to account for death, but that there was no remains of disease." A Juror—"Oh we are willing to admit that the use of green paper is objectionable." The verdict appeared to create great astonishment in the court.

**Pharmaceutical Society's Botanical Prize.**—A silver Council Medal is offered for the best Herbarium, collected in any part of the United Kingdom, between the first day of May, 1862, and the first day of July, 1863; and, should there be more than one collection possessing such an amount of merit as to entitle the collectors to reward, a second prize, consisting of a Bronze Medal, and also Certificates of Merit, will be given at the discretion of the Council. In the event of none of the collections possessing such an amount of merit as to warrant the Council in awarding Medals or Certificates, none will be given.

The collections to consist of Phanerogamous plants and Ferns, arranged according to the Natural System of De Candolle, or any other natural method in common use, and to be accompanied by lists, arranged according to the same method, with the species numbered.

The collector to follow some work on British Botany (such as that of Babington, Bentham, or Hooker and Arnott), and to state the work which he adopts. The name of each plant, its habitat, and the date of collection, to be stated on the paper on which it is preserved.

Each collection to be accompanied by a note, containing a declaration, signed by the collector, and certified by his employer, or a Pharmaceutical Chemist known to the collector, to the following effect:—The plants which accompany this note were collected by myself, between the first day of May, 1862, and the 1st day of July, 1863, and were named and arranged without any assistance but that derived from books.

**The Royal Society.**—The President of the Royal Society, General Sabine, R.A., held his first *conversazione* for the season at Burlington-house, on Saturday evening, the 3rd instant. Notwithstanding the claims of the International Exhibition, the handsome suite of rooms was well furnished with interesting objects, illustrative of botany, ethnology, the fine arts, and physical science generally. The specimens lent from the Royal Gardens and Museum at Kew, enabled visitors to inspect that newly-discovered plant *welwitschia mirabilis*, from Western Africa, in all its remarkable ugliness; the cinchona, and other plants, whose utility and appearance are alike noteworthy. Among ethnological collections were the skulls and flint implements and antlers recently dug up in the excavation for the great outfall sewer near Barking-creek; but the most interesting was the series of relics from one of the lake villages of Switzerland. In the time known to geologists as the "stone period" there were numerous villages on the margin of the Swiss lakes built on piles over the water, as is still the practice in the present day in some islands of the Indian archipelago; and within the past four or five years, antiquaries and ethnologists have fished up from the mud, where they have been buried for ages, specimens of the pots and pans, the utensils, weapons, and food of the ancient lake villages. The specimens in question were found at Wangen, on the Lake of Constance; they comprise implements of bone and stone, fragments of pottery, charred wheat and apples, and seeds, and portions of wood, which testify to the destruction of the village by fire; all from the collection of Mr. Henry Christy. Messrs. Siemens exhibited their submarine cables, electric resistance thermometer, and a regenerative gas furnace; and Mr. Wheatstone his latest improved telegraph instruments, sending signals from one end of the building to the other. Messrs. Osler showed a pair of cut glass vases of rare beauty, and two specimens of lapidary cutting with 800 facets, which were but little less brilliant than diamonds. Specimens of smashed targets, shot, and bolts from Shoeburyness, of manufactured iron; Fairbairn's model locomotive tank-engine, and Sir W. Armstrong's model 70-pounder, lent by the War-office, and a section of the iron-plated ship Defence, lent by the Admiralty, attracted much attention. In the course of the evening Professor Tyndall, of the Royal Institution, exhibited a few experiments on electric spectra in the Great-hall, illustrative of some of the most striking phenomena of spectrum analysis, which by the brilliance of their effects elicited general admiration.

**The Vaccination Act.**—Our able contemporary the *Medical Circular* says:—At last it is confessed that the Vaccination Act is a failure. Medical practitioners do not, as a rule, comply with its provisions, and we have no doubt, that thousands of children are vaccinated without the filling up of the usual certificates. We apprehend that among the better classes, a certificate is rarely, if ever, given. What is the reason of this? Simply that Medical men, like all other classes of persons, are unwilling to work without adequate remuneration. Why should they? From the beginning we have maintained, that an Act that depended for success mainly upon compulsory clauses would fail: the result has happened as we expected. It is understood that the books and forms now provided for vaccinators will be simplified: by all means; but it must not be forgotten, that a larger remuneration would give a more certain assurance of success. We are much inclined to think also that the multiplication of places where vaccinations are performed, tends to diminish the number of persons vaccinated, as it takes away the stimulus from individual vaccinators. When a public vaccinator finds that a large number of his cases are vaccinated at a neighbouring station or hospital, and that he has a difficulty in collecting cases, he soon begins to think that the pecuniary return is not worth the trouble; then, also, he is unable to keep up a regular supply of lymph, and he ceases to vaccinate. The Hospital authorities meanwhile have no incentive to do the work thoroughly and the system breaks down. It is in "the working" that institutions are tested, and none understand the weak points so well as those who are engaged in the practical duty. Privy councillors know by the results that their work has failed; but why it has failed is not always so obvious.

## ARSENICAL PIGMENTS IN COMMON LIFE.\*

THE following letter has been addressed by Professor Hofmann to the Right Hon. W. Cowper:—

"In accordance with your wishes, I have examined carefully the green colouring matter of the artificial leaves from a lady's head-dress which you have sent me.

"It is well known that such leaves generally contain arsenic, and often in considerable quantities. An experienced eye readily recognises the presence of an arsenic colour (Schweinfurt green) by its brilliancy, the intensity of which is as yet unrivalled by any other green. However, should there remain the slightest doubt, an experiment of the simplest kind would establish the fact. In most cases it would be sufficient to burn such a leaf in order at once to perceive the garlic odour which characterizes the presence of arsenic.

"In a dozen of the leaves sent to me, analysis has pointed out on an average the presence of ten grains of white arsenic. I learn from some lady friends that a ball-wreath usually contains about fifty of these leaves. Thus, a lady wears in her hair more than forty grains of white arsenic,—a quantity which, if taken in appropriate doses, would be sufficient to poison twenty persons. This is no exaggeration, for the leaves which you have sent me were, some of them at least, only partly coloured, others only variegated. In consequence of your inquiries, I have been led lately to pay more than usual attention to the head-dresses of ladies, and I observe that the green leaves are often much larger and more deeply coloured than those which I received.

"The question, how far arsenic-dyed wreaths may be prejudicial to health, is intimately connected with the discussion, so frequently raised of late years, as to the influence which arsenic-coloured paper-hangings exert upon the human system. This influence has been doubted on various grounds, both by the chemist and the physician. The alleged effect has been attributed to the development of arseniuretted hydrogen, or some other volatile arsenic compound, to which the white arsenic, by the action of the damp on the wall, or of the organic constituents of the paper and the paste, might possibly have given rise. Accurate experiments, however, often repeated and often varied, have proved the inadmissibility of the assumption of gaseous arsenic exhalations, and, as it so often happens, the injury was denied simply because it could not be explained. Nevertheless, the deleterious effect of arsenic green paper-hangings is at present pretty generally acknowledged. Indeed, it does not require any high-flown hypothesis to explain the transfer of the arsenic from the wall to the system. The arsenic dust, bodily separated from the wall and dispersed over the room, is quite sufficient for this purpose. The investigations of the last few years have clearly shown the presence of arsenic in the dust of rooms hung with arsenic-green paper, even when this dust had been collected at the greatest possible distance from the walls. Moreover, the chronic poisoning by arsenic of persons living in such rooms has been proved experimentally, inasmuch as the presence of arsenic may be demonstrated in their secretions, more especially if the elimination of the poison be accelerated by the administration of iodide of potassium.

"The employment of arsenic green in the manufacture of paper-hangings, in staining paper, in painting children's toys, &c., has attracted the attention of the sanitary authorities on the continent for many years past. In several of the German States, more particularly in Bavaria, the very country of arsenic colours (which are manufactured on a very large scale in Schweinfurt, a town in Franconia), the application of these colours to papering or painting rooms has been repeatedly proceeded against. I have before me an edict of the Bavarian Government, of July 21, 1845, expressly prohibiting the manufacture and sale of arsenic-green paper-hangings. This general prohibition, it is true, was repealed by an act of January 23, 1848, 'for industrial considerations,' and the use of Schweinfurt green permitted as before for house papering and painting, provided the colours were permanently fixed by appropriate means. The relaxation of the measures against Schweinfurt green appears, however, to have given but little satisfaction. In several papers laid both by chemists and physicians before the Academy of Munich, in its sitting of June 9, 1860, undoubted cases of chronic poisoning produced by arsenic papers, even when glazed, were brought forward, and the Academy was called upon to represent to the Government the necessity of strictly enforcing the former regulations against arsenic colours, and of removing all Schweinfurt green wall-colouring from public buildings, schools, hospitals, &c.

"The immense consumption of arsenic colours, and their reckless use under various conditions prejudicial to health, certainly claim the especial notice and the consideration of the public. Not satisfied with poisoning the wreaths which adorn the heads of our women, modern trade introduces arsenic, without scruple, even into their dresses. The green tarlatan, so much of late in vogue for ball dresses, according to an analysis made by Professor Erdmann, of Leipsic, contains as much as half their weight of Schweinfurt green. The colour is loosely laid on with starch, and comes off by the slightest friction in

\* Extracted from *Chemical News*, Feb. 8.

clouds of dust. I am told that a ball dress requires about twenty yards of material—an estimate probably below the mark, considering the present fashion. According to the above analysis, these twenty yards would contain about 900 grains of white arsenic. A Berlin physician has satisfied himself that from a dress of this kind no less than sixty grains powdered off in the course of a single evening.

"It will, I think, be admitted that the arsenic-crowned queen of the ball, whirling along in an arsenic cloud, presents, under no circumstances, a very attractive object of contemplation; but the spectacle, does it not become truly melancholy when our thoughts turn to the poor, poisoned artiste who wove the gay wreath, in the endeavour to prolong a sickly and miserable existence, already undermined by this destructive occupation!

"Ladies cannot, I think, have the remotest idea of the presence of arsenic in their ornaments. If aware of their true nature, they would be satisfied with less brilliant colours, and reject, I have no doubt, these showy green articles, which have not even the merit of being, as far as colouring is concerned, a truthful imitation of nature. There being no longer a demand for them, the manufacture of poisonous wreaths and poisonous dresses would rapidly cease as a matter of course."



*To the Editor of the Chemist and Druggist.*

GLASGOW DRUGGISTS' ASSOCIATION.

Glasgow, 6th May, 1862.

SIR,—It may not be uninteresting to your readers to know a little regarding the movements of the trade in this quarter, and with that view, and taking for granted your kindness in allowing me the use of your pages, I will give a general *resumé* of what we have been about for some time back, and particularly the last six months.

A few years ago a Druggists' Association existed in this city, having for its object the mental and physical improvement of the members, to be promoted by lectures, essays, debates, and the attainment of an abridgment of the hours of labour. The former part of this programme was entirely supplied by a kind and worthy member of our body, and one who has always taken a deep interest in the welfare of the chemists of this city (which I am sorry to say can be said of very few). It was most interesting and instructive to all who had the pleasure of attending these meetings—which might be termed botanical classes—to listen to the description of the nature and structure of the various plants which were exhibited. I may mention that the gentleman who so kindly favoured us with his experience and teachings at these meetings, occupies a prominent position in a public capacity in this city, which necessarily subjected us to an interruption in the course of instruction we had prescribed, and which ultimately, from want of proper organization in starting our meetings, came to a premature conclusion. I am glad to think that our supposed death turned out to be only a prolonged

sleep, for in the autumn of last year several of the members of the former association awoke, rubbing their eyes and exclaiming in perfect astonishment, "What a lazy class of individuals we are!" I thought it was a good and healthy sign to see persons astonished at their own laziness, especially after a lapse of years. It showed, at all events, that the habit had not gained the mastery over them, and amongst the first questions put by one to t'other of this sleepy brotherhood was, "What shall we do to bring us together as a body once more, if even nothing more than to interchange the sympathies of our natures?" for by this time we had grown out of all acquaintance with each other. One enthusiastic and fond-of-his-dinner personage believed the best way to get up an acquaintance was by supping together. Not a bad idea, thought I; very good, says another; until a general chorus echoed, The supper is the thing. Yes, the idea was clutched by all, probably from the fact that the druggists here had never before the opportunity of enjoying themselves together after such an extravagant fashion, and also—and this I say with a little reservation—that they were quite prepared to go the length of a few shillings in procuring to themselves a species of luxury not very familiar to many of the profession: I say familiar, because our bill of fare was to consist of smoking roast, and reeking plum pudding—the latter a great stranger. Well, sir, this supper idea, after appointing a committee, got along swimmingly, and there sat down at the first supper of the druggists, fifty gentlemen, under the able chairmanship of Donald Campbell, Esq., than whom a better could not be found. The usual

amount of speeches, songs, and toasts enlivened the evening, every one retiring to his home after spending one of the happiest evenings ever spent by druggists in this city.

It is to be understood that this supper was only preparatory to the proper organization and resuscitation of our defunct association, and that it was the intention of laying its foundation on a broader basis, and carrying out during the winter months a series of fortnightly scientific reunions. This was intended to be accomplished by devolving the entire working of the association on the young men in the trade, in other words, the assistants. In former years we had trusted to one or two parties carrying us through a session of six months, and on this occasion it was distinctly understood, that in so far as papers and essays were to be delivered, we should confine ourselves entirely to "ourselves;" and it was certainly gratifying to those who took an active interest in the arrangements, to find with what readiness young men came forward to read papers. The first of these papers was delivered by Mr. Thomas D. Moffat, on "Strychnine," which was followed by others in due course; and I can assure you that as a whole there was considerable talent displayed, both in the composition of these papers, and the debates which usually follow their delivery. It is a matter of regret in this large city that the bulk of employers stand aloof from any movement having for its object the educational requirements of the druggists; but this desponding fact has only sharpened us to look after our own interests, and I am glad to find that from the large attendance we had at our fortnightly meetings, the young men are determined that these shall be carried on next season with redoubled energy, and they will, I am certain, prove a great means in making the druggist have that love for his business, which in times past has been so mechanically entered into.

At the termination of our scientific meetings it was resolved, that, as a fitting wind-up, we should devote ourselves one night to enjoyment. This was arranged to come off in the shape of a soiree and assembly—the latter a first attempt. We have always had a difficulty in procuring a chairman on any public occasion, but our kind friend Donald Campbell is ever ready to assist, and he once more presided over a magnificent meeting of some three hundred druggists, including wives and sweethearts. The countenance and support we received on this occasion from the medical men was very encouraging. On the platform were Drs. Bell, Milner, Pannahill, Dickson, Mackie, Corbett, Watson, Professor Morton, &c. The two former gentlemen delivered very instructive addresses, and Dr. Bell, who is Professor of Botany in one of our universi-

ties, laid strong claims on the study of this important branch of science, while Dr. Milner devoted his remarks to the social capacity in which we meet, and the influences which such meetings have in cherishing friendly relations to each other. Professor Morton, after the programme, which contained many excellent songs, was nearly concluded, proposed, in an eloquent and happy manner, a vote of thanks to the Chairman, which was enthusiastically responded to, the whole company afterwards joining in Burns' eloquent strain of "Auld lang syne." This was certainly the most successful meeting ever we held, and in conjunction with the assembly passed off, leaving nothing to be desired.

I may, in conclusion, state, that I have for a short time been aware of the existence of a Chemists and Druggists' Society in London, and can only wish it every success, and trust that when a more familiar acquaintance with its objects shall have dispelled the ignorance I lie under regarding it, the druggists of this city, as a body, shall reciprocate what shall be for our mutual benefit. I may say that your journal is not so well known here as its merits deserve; and judging from my slight acquaintance with it, it is of such a nature as at no distant date to attract the attention of every one engaged in the business here; superseding as it does, in my humble opinion, the vaunted pretensions of the Pharmaceutical Society to elevate the druggist.

I am, Sir,

Your obedient Servant,

THE SECRETARY OF

Glasgow Druggists' Association.

#### THE TWO CLASSES OF CHEMISTS AND DRUGGISTS.

SIR,—It must have occurred to most of your readers that the article copied from the *Pharmaceutical Journal* of last month was never intended for "those who have no such recognition or legal qualification," but was a little bunkum for the select few who have "the exclusive right to the title of Pharmacist;" but it is fortunate that you have allowed the mass of Druggists to understand the principles advocated by the minority, in opposition to those of the United Society.

The Editor of the *Pharmaceutical Journal* has discovered a new idea, but is still in error. There has not been, neither is there, any desire "to justify our separation from the class of qualified men," for we are quite satisfied with the qualifications we possess, and can carry on our businesses in as creditable a manner, and with as much advantage, as though we had the diploma of the Pharmaceutical Society. Our origin was similar to that of the old society—which we find so closely allied to the Medical Profession, on

whom it depends, that it forgets the majority of us have no dealings with the physician or surgeon; and we find that institution which was established to protect the general interests of the Chemist and Druggist, is exclusively devoted to those whose lot is to dispense prescriptions and retail perfumery.

We cannot desire "to justify our separation," for we are warm advocates for voluntary education, and therefore supporters of the Pharmaceutical Society in a free trade spirit. The great gulf between the classes is not antagonism to education, but utter inability to give the time, or to pay the fees necessary to be considered a competent dispenser. The only opposition we offer is to their "certificate, which is not yet rendered essential as a licence for carrying on a business," ever becoming so.

The profits of the trade are not sufficiently remunerative, nor is the advantage gained

sufficient to warrant so great a sacrifice of time and means.

#### A PRESCRIBING CHEMIST.

[We have received several letters on this subject, which we are unwillingly compelled to keep for our next number.—Ed.]

#### UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

London, 13th May, 1862.

Sir,—Will you kindly allow me through the medium of your volume to explain the delay of a few days in the delivery of this Society's Certificate of Membership, by stating that the engravers are not able to complete them until the 21st inst. On and after that date they will be ready to deliver to every member who has forwarded his membership fee for current year of 5/- and four extra penny stamps to defray the expense of rolling and postage.

Your obedient Servant,  
C. F. BUOTT, Secretary.



*Syr. Ferri et Quinae Iodidi.* (J. J.)—We have received the following formula from C. G. D. and "Bouchardat";—Digest 3j of iodine with 3ss of iron filings and f3iv. of water, with a gentle heat and frequent agitation (in a Florence flask), till the solution is colourless. Filter it rapidly into a vessel containing f3xxvij of simple syrup. Dissolve also gr. xij of disulphate of quina in f3ij of water acidulated with sulphuric acid, and add this solution to the former. C. G. D. states that he has tried the above formula, and can answer for the excellence of the preparation. It contains gr. iij of iodide of iron in f3j.

Mr. R. H. Williams, analytical chemist, of Cranley, near Guildford, has sent us the formula for his *Syr. Ferri Iodidi cum Quinae*, which is a similar preparation. The syrup of iodide of iron is first prepared thus:—Take of iron filings (washed clean) gr. 126 or more; pure iodine, gr. 252; distilled water, f3ij. Mix together in a flask, and shake until colourless, then filter solution into f3x of simple syrup (f3ij should weigh 1bj avoirdupois). Mr. Williams strongly recommends the above formula for *Syr. Ferri Iodidi*. To f3xij of this syrup now add quinae disulph. gr. 96; shake well together, let the mixture stand for fourteen days, then strain.

*Chloroform* ("Kappa").—Some complex chemical changes take place in the manufacture of chloroform, and the reaction between the chloride of lime and the alcohol is not well understood. The so-called "chloride of lime," or chlorinated lime, consists of chloride of calcium (CaCl), and hypochlorite of lime (CaO, ClO), but it is the latter substance only which is concerned in these changes. It is supposed that the first step towards the formation of the chloroform is the production of chloral (C<sub>2</sub>HCl<sub>3</sub>O<sub>2</sub>). This is a thin colourless volatile liquid of a penetrating odour, and is the substance from which chloroform was first obtained in 1832 by Soubeiran by the action of caustic alkalies—2 equivalents of alcohol and 8 of chlorinated lime contain the elements of 1 equivalent of chloral, 1 of lime, and 9 equivalents of water, besides 5 of chloride of calcium, and 2 of formiate of lime. The latter compounds need not be regarded in considering the next change, which results from the reaction of the chloral and lime with one of the nine atoms of water. This reaction gives rise to one equivalent of chloroform, which distils over, and one more of formiate of lime, which remains behind in the retort, thus:—C<sub>2</sub>HCl<sub>3</sub>O<sub>2</sub> + CaO + H<sub>2</sub>O = C<sub>2</sub>HCl<sub>3</sub> + CaO, C<sub>2</sub>H<sub>3</sub>O.

*Arsenical Green Paper.*—J. H. H. states that his child nearly lost its life through sucking the cover of a pamphlet which was coloured with the common arsenical green pigment. In compliance with his request that we should point out the simplest mode of detecting arsenic in green papers, we describe the test recommended by Dr. Frazer, of

Dublin. The powder detached by scraping from the surface of the paper is intimately mixed with about twice its bulk of pulverized yellow prussiate of potash, which has been previously dried to deprive it of its water of crystallization. The mixture is then introduced into a clean narrow test-tube of hard glass, and steadily heated before the blow-pipe. If arsenic be present it will be reduced, and subliming in the metallic state will condense, as a more or less brilliant ring, in the upper part of the tube. By means of this delicate test any one, with a moderate amount of care, can at once determine whether arsenic is present in a suspected piece of paper. We fear that nothing can be done to prevent manufacturers using arsenite of copper until some other green pigment equally brilliant and cheap is discovered.

*Chlorodyne*.—The preparation made by Mr. Towle, from Dr. Ogden's formula, has nearly the same consistence as glycerine. We are making some curious experiments with the original chlorodyne and its excellent imitations, and shall publish the results in an early number. Our Nottingham correspondent, to whom this note is particularly addressed, must in future furnish us with his name.

*Parish Dispensing*.—"A Druggist" writes:—Can any of your kind correspondents, who have had any experience in dispensing for the medical officer of a scattered country parish, inform me at how much per thousand such dispensing can be done, so as to yield a fair remuneration for the trouble?

*Coating Pills*.—In a letter addressed to us last month, Mr. Furley contradicted our statement that his process for coating pills was no longer protected by a provisional patent. It appears that he also addressed a similar letter to the Editor of the *Pharm. Journ.*, who has published it with the following note:—"We have examined the specification of Mr. Furley's process, and find that it was, as Mr. Furley states, renewed October 12th, 1861, but we are informed that it has since been abandoned; the process, therefore, is now open to the public.—Ed. P. J."

*Arsenical Mucilage in the Treatment of Cancer*.—The following is Dr. Marsden's formula for arsenical mucilage, referred to in the 'Lancet' of March 1st:—"Arsenious acid, gum arabic powder, of each one ounce, mixed with five drachms of water. The part affected to be painted over with the mucilage night and morning, never exceeding one superficial inch. As the part becomes deadened, it must be allowed to slough off, aided by the application of a simple warm bread-and-water poultice. When all the diseased part has been thus got rid of by the repeated application of the mucilage, a carrot poultice should be applied during the night, and a weak black lotion during the day (calomel, one drachm; lime water, one pint), until the part is entirely healed."

*Emplastrum Resinæ*.—The following modification of ordinary resin-plaster is recommended by M. Desmalines:—White wax, 100 parts; resin-plaster, 500 parts; and calamine powder, 60 parts. The wax and plaster having been melted together, the calamine is stirred in.

\* \* We cannot undertake to attend to anonymous communications, or to answer queries through the post.

**SAFETY MATCHES.**—A congrève match is at once a good and bad servant, the paradox being maintained by its convenience as a means of obtaining a light, and the danger from its too ready ignition by accident. We are doing a public service, then, in calling attention to an improvement of this valuable invention, patented by Messrs. Bryant and May. The "Special Safety Match" will only ignite when rubbed on the prepared surface of the box. Neither friction, percussion, nor heat will otherwise produce combustion; and accidents are consequently impossible. What the compound is with which the match is tipped we know not, but it contains no phosphorous, it is not poisonous, it omits no unpleasant odour, and it is not liable to spontaneous combustion. So carpets need not be burnt by carelessly dropped matches being trodden on, nor wall-papers and panels disfigured by promiscuous rubbings by lazy light-seekers. The new match is really a great invention in an unpretending form.



The business done in Chemicals during the past month has been only to a limited extent, and prices have with difficulty been supported. Tartaric Acid, in small parcels, has moved at 1s. 8½d. to 1s. 8¾d. Iodine has become dull, and there are now sellers at 5d. for seconds, and 5½d. for firsts. Citric Acid is slow at 1s. 8½d. to 1s. 8¾d. A good business has been done in Oxalic Acid at 9½d. to 10d., but now the price is 9½d., with a moderate demand. Bichromate is dull at 12½d. to 12¾d. Prussiate of Potass remains quiet at 8½d. to 8¾d. Some parcels of French Quinine have been sold at 7s. 2d., and English at 8s. Soda Ash is quiet at 2d. and 2½d. Chlorate of Potass is steady at 11d., and Sal Acetos at 11d. per lb. More doing in Bleaching Powder, sales made at 9s. 6d. to 10s., now the latter price asked. Flour of Brimstone is dull at 13s. 6d. to 15s. 6d., according to quantity and quality. Sulphate of Copper is slow at 33s. Sal Ammoniac is quiet at 35s. to 36s. for seconds, and 38s. for firsts. Sulphate of Ammonia is steady, with a moderate business, at 15s. to 15s. 6d. Sales of Cream of Tartar have been made at 126s. to 127s. 6d. Canada Pot and Pearl Ashes remain at 34s., with little doing. A large business has been done in Linseed Oil, the pure is now firm at 37s. 3d. to 37s. 6d. Rape is also dearer, and in good demand. Saltpetre is 3s. to 5s. higher, and in brisk request; refined is very firm at 46s. to 46s. Rosin is rather better. Turpentine has been done at 67s. for American, but is now firm at 72s., and English at 69s. Other articles remain as last quoted.

In the drug market a fair business has been transacted. Sales of Ipecacuanha have been made at 7s. 6d. to 7s. 9d., and now 8s. is asked. Cardamoms are much dearer, 7s. 6d. paid for good Malabar. About 70 cases Oil Aniseed sold at 5s. 9d., which is rather dearer. Small sales of Castor Oil made at 6d. to 6¾d. for sound to good pale. A good parcel of Turkey Opium sold at 14s. to 14s. 9d.; low and inferior, 10s. to 13s. 6d.; and very low, 7s. 9d. to 8s. Several parcels of Turkey Scammony sold at full price. Turkey Blue Galls are now taken in at 95s. to 100s. Further sales of Camphor sold at £10 10s. for new landed, and £11 5s. for old landed with reweight. Fine Gum Myrrh is dearer, a few cases brought £11 5s. to £12 5s., ordinary sorts are as before. Large sales of Cochineal have again been brought forward and only part sold at a decline of 1d. to 2d. per lb. Bark is less in request, but held for former prices. Shellac has declined 10s. to 20s., but the latest sales show an advance of 5s. to 7s. 6d. on the lowest prices. Rhubarb is rather dearer, about 250 chests sold fair round 2s. 2d., and of low to good flat 8d. to 2s. 6d. Aloes are without change; some new split Barbadoes realized £14 to £17, and Cape 35s. to 42s. No change in Gums, and very little doing. Some parcels of good Guinea Grains sold at 52s. to 54s. Jalap is quiet at 4s. to 5s., according to quality. Several parcels of Senna have been brought forward, some Tinnevely sold at 1½d. for very low, up to 1s. 6d. for very good, and Bombay 2d. to 2½d.

#### PRICE CURRENT.

*These quotations are the latest for ACTUAL SALES in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the CASH PRICES in BULK. They will, however, be able to form a tolerably correct idea of what they ought to pay.*

	1862.				1861.					1862.				1861.				
	s.	d.	s.	d.	s.	d.	s.	d.		s.	d.	s.	d.	s.	d.	s.	d.	
ARGOL, Cape, pr ct.	87	6	96	6	100	0	110	0	BRIMSTONE,									
French .....	41	0	70	0	69	0	85	0	rough.....per ton	145	0	0	0	160	0	0	0	
Oporto, red .....	45	0	50	0	50	0	51	0	roll.....	260	0	0	0	270	0	280	0	
Sicily.....	65	0	80	0	85	0	90	0	flour.....	260	0	310	0	290	0	310	0	
Naples, white.....	65	0	80	0	85	0	90	0	CHEMICALS,									
Florence, white.....	90	0	100	0	95	0	105	0	Acid—Acetic, pr lb	0	4	..	0	4	..	0	4½	
red.....	85	0	87	6	85	0	97	6	Citric .....	1	8½	..	1	8½	..	1	10½	
Bologna, white.....	115	0	120	0	125	0	130	0	Nitric .....	0	3½	..	0	5	..	0	5½	
ARROWROOT,									Oxalic .....	0	9½	..	0	9	..	0	9	
duty ½ per cwt.	0	10	..	1	4	0	11	..	Sulphuric....	0	9½	..	0	9	..	0	1	
Bermuda.....per lb.	0	3	..	0	6	0	2½	..	Tartaric crystal	1	8½	..	1	8½	..	1	10½	
St. Vincent.....	0	3	..	0	6	0	2½	..	powdered.	1	8½	..	0	11	..	0	11	
Jamaica.....	0	2½	..	0	3	0	2½	..	Alum.....per ton	130	0	135	0	125	0	130	0	
Other West India.	0	2	..	0	3½	0	2	..	powder .....	145	0	0	0	150	0	0	0	
Brazil.....	0	1½	..	0	2	0	1½	..	Ammonia, Crb. lb.	0	5	..	0	6	0	5½	0	6
East India.....	0	1½	..	0	2	0	1½	..	Sulphate per ton	270	0	290	0	280	0	290	0	
Natal.....	0	2	..	0	7½	0	2	..	Antimony, ore....	260	0	280	0	320	0	340	0	
Sierra Leone.....	0	2½	..	0	3	0	2½	..	crude, per cwt	26	0	28	0	30	0	40	0	
ASHES.....per cwt.									regulus .....	44	0	..	0	52	0	..	0	
Pot, Canada, 1st sort	34	0	..	0	38	0	..	0	French star....	45	0	..	0	51	0	..	0	
Pearl, do. 1st sort.	34	0	..	35	0	38	0	..	Arsenic, lump....	17	6	..	18	6	17	0	..	18

## PRICE CURRENT—continued.

1862.				1861.				1863.				1861.			
s. d. s. d.				s. d. s. d.				s. d. s. d.				s. d. s. d.			
CHEMICALS.															
Arsenic powder ..	8	0	11	0	9	0	10	0	6	0	10	4	4	4	6
Bleaching Powder ..	9	0	9	6	10	0	10	6	6	0	10	3	0	4	4
Borax, E. I. refined	52	6	0	0	0	0	0	0	0	0	0	4	6	5	1
British .....	62	6	65	0	65	0	0	0	0	0	0	20	0	35	0
Calomel...per lb.	2	10	0	0	2	10	0	0	0	0	0	0	5	0	6
Camphor, refined ..	2	7	0	3	2	2	6	0	0	0	0	0	5	0	5
Copras, grn. pr. tn.	60	0	65	0	65	0	0	0	0	0	0	0	5	0	5
Crrsiv. Sublmt. lb.	1	11	2	0	2	0	0	0	0	0	0	0	4	0	4
Green Emuld. pr. lb.	0	9	0	11	0	9	0	1	0	0	0	1	0	28	0
Brunswk. cwt.	14	0	42	0	14	0	42	0	0	0	0	1	0	28	0
Iodine, dry, pr. oz.	0	5	0	5	0	4	0	5	0	0	0	12	0	13	0
Magnesia Crbn. ct.	40	0	45	0	42	6	45	0	0	0	0	4	9	5	6
Calced, lb. ....	1	6	0	0	1	6	0	0	0	0	0	10	0	1	4
Minium red, pr. ct.	21	6	23	0	22	6	23	0	0	0	0	15	0	47	0
orange .....	33	0	35	0	35	0	0	0	0	0	0	15	0	47	0
P'tsh. Bichrom. lb.	0	8	4	0	0	9	4	0	10	0	0	130	0	132	6
Chlorate .....	0	0	0	11	0	10	0	10	0	0	0	135	0	0	0
Hydrodate oz.	0	4	3	0	0	5	4	0	0	0	0	122	6	125	0
Prussiate .. lb.	1	0	4	0	1	1	1	0	2	0	0	115	0	117	6
red .....	2	1	2	2	2	2	0	0	0	0	0	100	0	105	0
Precipit. red pr. lb.	2	9	2	10	2	9	0	0	0	0	0	146	0	140	0
white .....	2	9	2	10	2	10	0	0	0	0	0	146	0	140	0
Prussian Blue....	1	6	1	10	1	6	1	10	0	0	0	100	0	280	0
Rose Pink...pr. ct.	29	0	30	0	29	0	30	0	0	0	0	100	0	260	0
Sal-Acetos...pr. lb.	0	10	4	1	0	10	4	0	11	0	0	16	0	29	0
Ammonia, ct.												14	0	18	0
British .....	35	0	38	0	32	0	33	0	0	0	0	46	6	48	0
Epsom .....	8	0	8	6	8	3	8	6	0	0	0	60	0	80	0
Glauber .....	4	0	5	6	4	6	5	6	0	0	0	25	0	40	0
Soda, Ash, pr deg.	0	2	0	2	0	2	0	2	0	2	0	38	0	50	0
Bicarbonate, ct.	12	0	0	0	13	0	14	6	0	0	0	28	0	40	0
Crystals per ton.	87	6	90	0	85	0	90	0	0	0	0	90	0	105	0
Sgr. Lead, white, ct.	37	6	38	0	38	0	39	0	0	0	0	9	6	13	0
brown .....	27	0	28	0	28	0	0	0	0	0	0	9	6	13	0
Silph. Quinine oz	8	0	0	0	7	2	7	6	0	0	0	1	0	3	6
British in bottl.	7	0	7	2	6	9	7	6	0	0	0	3	0	3	9
Foreign .....	14	6	15	0	14	6	15	0	0	0	0	9	6	12	0
Sulphat. Zinc. cwt.	1	3	1	5	1	3	1	5	0	0	0	9	6	12	0
Verdigris...lb.	1	3	1	5	1	3	1	5	0	0	0	9	6	12	0
Vermilion, English	3	0	3	4	3	0	3	4	0	0	0	1	0	1	0
China .....	2	6	2	8	2	3	2	8	0	0	0	1	0	1	0
Vtrl. blue or Romn.	35	0	36	0	32	0	0	0	0	0	0	83	0	90	0
per cwt.															
COCHINEAL, pr. lb.															
Honduras, black..	2	8	3	10	3	0	4	10	0	0	0	85	0	95	0
silver .....	1	4	3	3	2	2	3	2	0	0	0	3	3	3	9
Mexican, black....	2	7	2	9	2	10	3	4	0	0	0	1	6	2	0
silver .....	2	5	2	6	2	6	2	9	0	0	0	26	0	34	6
Lima .....	2	7	3	2	2	10	3	7	0	0	0	8	0	9	0
Teneriffe, black ..	2	7	3	0	2	9	3	6	0	0	0	16	0	17	6
silver ..	2	5	2	7	2	7	2	10	0	0	0	6	0	13	0
DRUGS.															
Aloes, Hepatic, ct.	180	0	200	0	70	0	190	0	0	0	0	70	0	80	0
Socotrine .....	160	0	480	0	110	0	480	0	0	0	0	8	0	9	0
Cape, good .....	40	0	42	0	40	0	42	0	0	0	0	1	0	2	8
inferior .....	20	0	36	0	30	0	37	0	0	0	0	1	2	2	0
Barbadoes .....	60	0	420	0	40	0	460	0	0	0	0	3	3	3	6
Anabergis, gray.															
per oz.	35	0	38	0	34	0	40	0	0	0	0	11	0	0	0
Angelica Root, ct.	20	0	35	0	28	0	40	0	0	0	0	45	0	48	0
Aniseed, China str.	75	0	78	0	70	0	80	0	0	0	0	250	0	280	0
German, &c.	32	0	40	0	32	0	40	0	0	0	0	0	10	1	2
Balsam Canada, lb	1	3	1	4	1	3	0	0	0	0	0	0	10	1	2
Capivi .....	1	8	1	9	1	10	2	0	0	0	0	0	11	1	6
Peru .....	4	6	4	8	4	5	4	7	0	0	0	1	3	2	5
Tolu .....	3	0	3	2	3	9	4	0	0	0	0	10	0	12	0
Bark Cascarilla ct.	22	0	49	0	24	0	49	0	0	0	0	28	0	36	0
Peru crown & grey															
per lb .....	1	2	2	6	1	7	2	8	0	0	0	14	0	24	0
Calisaya, flat....	3	10	4	6	3	9	4	0	0	0	0	2	2	0	0
quill .....	3	9	4	2	3	6	8	10	0	0	0	0	14	0	2
Carthagen.....	1	2	2	6	1	2	2	0	0	0	0	0	24	0	10
Pitayo .....	1	10	2	9	1	6	2	3	0	0	0	0	24	0	10
Red .....	2	6	2	6	2	0	6	0	0	0	0	1	2	1	3
Bay Berries, pr. ct.	22	0	40	0	22	0	40	0	0	0	0	1	2	1	4
Bucca Leaves, lb.	0	3	1	3	0	4	1	3	0	0	0	0	1	0	2
Camomile Flowers	40	0	75	0	40	0	90	0	0	0	0	9	0	12	0
Camphor, China ..	210	0	0	0	220	0	250	0	0	0	0	16	0	35	0
Canella Alba .....	19	0	40	0	22	0	42	0	0	0	0	20	0	40	0
Cantharides, pr lb.	2	4	0	0	2	2	2	4	0	0	0				
Cardamoms. Mltar.															
good .....	7	6	7	9	4	10	5	0	0	0	0	16	3	16	9
DRUGS.															
Cardamoms, inferior	6	0	7	0	4	0	6	0	0	0	0	4	4	4	6
Madras .....	4	0	6	6	3	0	4	6	0	0	0	3	0	4	4
Ceylon .....	4	4	4	8	4	6	5	1	0	0	0	4	6	5	1
Cassia Fistula pr. ct.	20	0	32	0	20	0	32	0	0	0	0	20	0	35	0
Castor Oil, 1st pale, lb	0	6	4	0	0	6	4	0	0	0	0	0	5	0	6
second .....	0	5	6	0	0	5	6	0	0	0	0	0	5	0	5
infer. & dark ..	0	4	3	0	0	4	3	0	0	0	0	0	5	0	5
Bombay, in casks.	0	4	3	0	0	4	3	0	0	0	0	0	4	0	4
Castorum .....	1	0	26	0	1	0	26	0	0	0	0	1	0	28	0
China Root, pr. ct.	9	0	10	0	9	0	10	0	0	0	0	9	0	10	0
Coculus Indicus ..	14	0	0	0	14	0	0	0	0	0	0	12	0	13	0
Cod-Liver Oil, gal..	4	9	6	0	4	9	6	0	0	0	0	4	9	5	6
Cleynth. apple, lb.	0	7	1	0	0	7	1	0	0	0	0	10	0	1	4
Colombo Rt. pr. ct.	15	0	52	6	15	0	52	6	0	0	0	15	0	47	0
Cream Tartar, pr. ct.															
French .....	126	0	127	6	130	0	132	6	0	0	0	130	0	132	6
Venetian .....	127	0	130	0	135	0	0	0	0	0	0	135	0	0	0
gray .....	112	6	110	0	122	6	125	0	0	0	0	122	6	125	0
brown .....	105	0	110	0	105	0	110	0	0	0	0	115	0	117	6
Croton Seed .....	55	0	70	0	55	0	70	0	0	0	0	100	0	105	0
Cubebs .....	115	0	120	0	115	0	120	0	0	0	0	150	0	170	0
Cumin Seed .....	48	0	53	0	48	0	53	0	0	0	0	36	0	40	0
Dragon's bld. reed.	160	0	240	0	160	0	240	0	0	0	0	140	0	280	0
lump .....	70	0	200	0	70	0	200	0	0	0	0	100	0	260	0
Galangal Root .....	16	0	44	0	16	0	44	0	0	0	0	16	0	29	0
Gentian Root .....	17	0	19	0	17										

## PRICE CURRENT—continued.

[illegible]



The abridged Specifications of Patents given below are prepared specially for this Journal by Mr. R. Brooman, from official copies supplied by the Government, and are therefore the property of the Proprietor of this Journal. Other papers are requested not to reproduce them without acknowledgment:—

2351. J. OLIVER, J. GRANTHAM, W. SIN-  
NOCK, and M. R. LEVERSON. *Improvements in the mode of obtaining certain chemical substances, and in the treatment of vegetable fibres, and in obtaining manurial and other products therefrom.* Dated September 20, 1861.

This consists—1. In improvements in the mode of obtaining alkaline salts and earthy chlorides. 2. In the application of the same to the treatment of vegetable fibrous material for the manufacture of pulp, suitable for making the various descriptions of paper articles of furniture and other works of art. 3. In the application of the organic matter, mineral, and saline substances extracted from the vegetable fibrous material operated upon, combined with phosphate and nitrogenous compounds, for imparting a high value to them as manurial compounds. *Patent completed.*

2333. C. and J. WATT, and T. S. HAVISIDE. *An improved mode or method of bleaching palm oil.* Dated September 24, 1861.

This consists in boiling palm oil in an aqueous solution of either sulphate of zinc or

chloride of zinc, or sulphate of copper or sulphate of iron, or chloride of iron or calcium. *Patent completed.*

2394. S. RICHARDSON and R. IRVINE. *Improvements in treating gelatine.* Dated September 25, 1861.

This consists in increasing the sizing properties and hardness of gelatine by the addition of one or more of the phosphates of lime and magnesia, silicates of potash, soda, lime and magnesia, and bicromate of potash. Also in treating the gelatine obtained from bones by muriatic acid with the sulphates, sulphites, phosphates, or silicates of the alkalies or weak sulphuric acid or aqueous sulphurous acid. *Patent abandoned.*

2438. E. ROCHE. *Medical preparation applicable as a lotion and for internal application.* Dated September 30, 1851.

This medicinal preparation is beneficial for rheumatism, neuralgia, gout, stomach, chest, and liver complaints, and it is prepared from the roots of the pomegranate and date trees. This extract is macerated in brandy. *Patent abandoned.*

**PARTIAL TO POISON.**—We have most of us hitherto been in the habit of looking upon strychnine as a deadly poison. We shudder at the mere mention of the word. We remember the Rugely tragedy, and see before us Palmer's wretched victim distorted in the agonies of tetanus. What does the reader say to a discovery recorded in the pages of the *Pharmaceutical Journal*, that there is a class of living creatures actually in existence who not only partake of this terrific poison habitually, without injury, but who live upon it as their usual food, and thrive upon the diet? The living creatures who are given up to this abnormal pastime of devouring strychnine, and who may be regarded as the opium-eaters of the animal creation, are minute beings resembling those which will sometimes become developed by a mouldy Stilton. They are called by the vulgar "mites," and by the learned acari. They are, however, common not cheese-mites, but so different from them that, when an attempt was made (to be presently alluded to) to induce some of the respectable cheese amateurs to change their diet for a course of strychnine, the poor things died incontinently, as well-regulated mites might be expected to do. The unnatural mites, then, concerning whose habits we have these few words to say, were discovered by a gentleman of considerable chemical attainments, while engaged in a microscopic examination of certain efflorescences which appear on the surface of medicinal extracts, "juices of plants concentrated to a semi-solid condition." Now, the most remarkable thing about this was that the preparations themselves were of a nature which might reasonably have been expected to produce very injurious results upon animal life, while upon these mites they appeared to exercise no evil influence whatever. Here were mites living upon extract of colocynth, which it must be admitted seems a rather choleraic diet, others upon taraxacum, and others yet upon strychnine, the extract of nux vomica.—*Dickens's All the Year Round.*

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